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EVALUATION OF POTENTIAL ONSITE SOURCES OF CONTAMINATION  
IN VADOSE ZONE AT MONADNOCK COMPANY FACILITY  
IN CITY OF INDUSTRY, CALIFORNIA

PHASE 2B

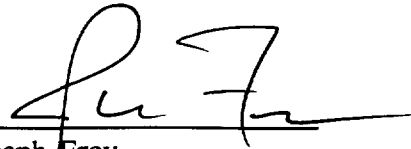
Prepared for:

TRW Inc.  
One Space Park 140/1536  
Redondo Beach, California 90278

February 1992

The soil sampling and analysis program described in this report and the resultant boring logs were conducted/prepared under the supervision of Mr. Joseph Frey, a California-certified engineering geologist. Mr. Frey has considerable experience in the conduct of soil and ground water investigations. His signature and stamp appear below.



  
Joseph Frey  
Certified Engineering Geologist  
Number 1500

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**EVALUATION OF POTENTIAL ONSITE  
SOURCES OF CONTAMINATION IN  
VADOSE ZONE AT  
MONADNOCK COMPANY FACILITY  
CITY OF INDUSTRY, CALIFORNIA**

**1.0 INTRODUCTION**

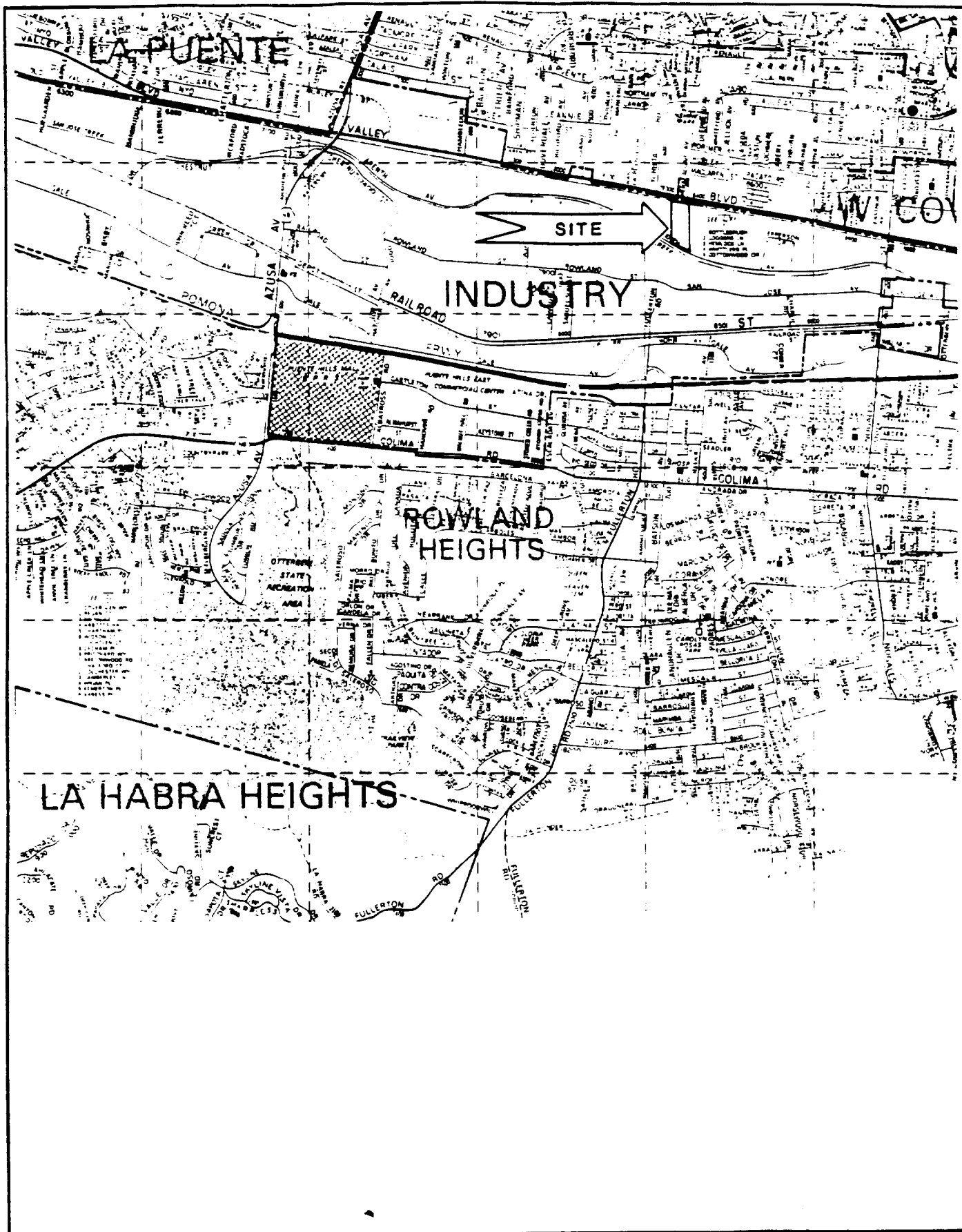
The California Regional Water Quality Control Board - Los Angeles Region (RWQCB) has determined that discharges of solvents and other chemicals have occurred from the Monadnock Company facility, located at 18301 East Arenth Avenue in City of Industry, California (see Figure 1 for site location). Specifically, the RWQCB, in Cleanup and Abatement Order 88-2 (dated May 11, 1988), stated that the following actions have or could have caused soil and/or groundwater contamination at the site:

- o Cleaning of equipment with solvents in an unpaved area of the site
- o Occasional dumping of used chemicals on the ground
- o Potential spills or leakage from chemical storage
- o Potential leakage from sumps, drains, piping, and an industrial waste clarifier

TRW Inc. (TRW), as a condition of the amended Cleanup and Abatement Order 88-057 issued by the RWQCB (dated September 29, 1989), is required to "determine any other contamination sources in the vadose zone on site (at the Monadnock Company facility) and evaluate threat to groundwater from residual contamination." To accomplish this goal, TRW has chosen to use a phased approach, whereby (1) potential sources of contamination in the vadose zone are identified (Phase 2A) and (2) having identified the potential sources of contamination, the lateral and vertical extent of contamination is evaluated (Phase 2B).

The Phase 2A investigation was conducted by Woodward-Clyde Consultants (Woodward-Clyde) in August 1990. A report of the investigation, entitled "Evaluation of Potential Onsite Sources of Contamination in Vadose Zone at Monadnock Company Facility City of Industry, California," dated October 1990, was submitted to the RWQCB in October 1990.

The Phase 2A investigation focused on potential vadose zone contamination from volatile organic compounds (VOCs), the specific metals historically used at the facility, acids and bases, and cyanide. To evaluate potential zones of soil contamination, soil gas sampling and near-surface soil sampling and analysis techniques were used. Areas of suspected VOC contamination were



### SITE LOCATION

Project No.: 904W164A

Date: SEPT 1980

Project: TRW-MONADNOCK

Fig. 1

surveyed using soil gas sampling and confirmatory soil sampling and analysis; areas of suspected toxic metal or cyanide contamination were evaluated using near-surface soil sampling and analysis.

Based on the concerns of the RWQCB and the previous chemical storage/usage patterns at the Monadnock Company facility, Phase 2A soil gas surveying was conducted in the following areas:

- o Sewer line from clarifier to street
- o Clarifier
- o Former vapor degreasers and associated floor drains
- o Area upgradient (to the east) of Monitoring Well MW-3
- o Concrete/asphalt interface south of building
- o Area adjacent to southwest corner of building
- o East parking lot area
- o Area adjacent to southeast corner of building
- o Alleged former swamp area
- o Former drum storage area at southeast corner of building
- o Former drum storage in bermed area along midsection at east end of building
- o West side of building between dock storage area and southwest corner
- o West dock storage area along paving/dock interface
- o Former underground storage tank location at east perimeter of property.

Results of the Phase 2A soil gas survey are as follows:

- o **Sewer Line from Clarifier to Street** - Elevated concentrations (up to thousands of parts per billion) of 1,1,1-trichloroethane (TCA), trichloroethene (TCE), and tetrachloroethene (PCE) were detected in soil gas samples collected from this area.
- o **Clarifier** - Concentrations of TCA, TCE, and PCE up to tens of parts per billion were detected in soil gas adjacent to the clarifier. Woodward-Clyde suggested that these concentrations probably represent migration of soil gas from other source areas at the site.
- o **Former Vapor Degreasers and Associated Floor Drains** - Subsurface soil beneath the present degreaser area within the building contained significantly-elevated concentrations of TCA, TCE, and PCE in the soil gas (up to tens of thousands of parts per billion).
- o **Area Upgradient of Monitoring Well MW-3** - Somewhat elevated concentrations of TCA, TCE, and PCE (up to thousands of parts per billion) were detected in soil gas from the area upgradient of Monitoring Well MW-3. Woodward-Clyde believed that these concentrations may not indicate that subsurface soils beneath the area upgradient of Monitoring Well MW-3 have been impacted by localized spills of TCA, TCE, and PCE. Rather, soil gas originating from the sewer line may be migrating toward the area upgradient of Monitoring Well MW-3.
- o **Concrete/Asphalt Interface South of Building** - Elevated concentrations of TCA, TCE, and PCE (up to thousands of parts per billion) were present in soil gas along the concrete/asphalt interface south of the building.
- o **Area Adjacent to Southwest Corner of Building and Alleged Former Swamp Area** - Significantly-elevated concentrations of TCA, TCE, and PCE (up to tens of thousands of parts per billion) were detected in soil gas collected from the area adjacent to the southwest corner of the building and in the alleged former swamp area to the south of the southwest corner of the building.
- o **East Parking Lot Area** - Concentrations of TCA, TCE, and PCE up to hundreds of parts per billion were detected in soil gas in the east parking lot area. Woodward-Clyde believed that these concentrations probably represent migration of soil gas from other source areas at the site.



- o **Area Adjacent to Southeast Corner of Building** - Elevated concentrations of TCA, TCE, and PCE (up to thousands of parts per billion) were present in soil gas proximate to the southeast corner of the building.
- o **Former Chemical Storage/Usage Areas** - Concentrations of TCA, TCE, and PCE up to hundreds of parts per billion were detected in soil gas in the following former chemical storage/usage areas:
  - Bermed area along outside east wall of building
  - West side of building between dock storage area and southwest corner
  - West dock storage area along paving/dock interface
  - Pavement line south and east of building
  - Heat treatment room and adjacent former laboratory

Woodward-Clyde believed that these concentrations probably represent migration of soil gas from other source areas at the site.

- o **Former Underground Storage Tank** - Concentrations of TCA and PCE up to tens of parts per billion were detected in soil gas in this area. Woodward-Clyde believed that these concentrations probably represent migration of soil gas from other source areas at the site.

Near-surface soil sampling and analysis conducted by Woodward-Clyde during August 1990 indicated that subsurface soils along the west dock area have been impacted by cyanide, chromium, and cadmium.

As a result of these findings, Woodward-Clyde included a work plan in the Phase 2A investigation report for conduct of the Phase 2B investigation. As mandated by the RWQCB (meeting on December 3, 1990; letter dated March 14, 1991; letter dated May 17, 1991; and letter dated June 21, 1991), the work plan was amended several times to reflect concerns of the RWQCB. The scope of work of the Phase 2B investigation conducted by ID Environmental Associates (IDEA), as described in the following sections, reflects the concerns of the RWQCB.

## **2.0 SCOPE OF WORK**

The objective of the Phase 2B investigation was to better define the lateral and vertical extent of VOCs, cyanide, chromium, and cadmium in the subsurface soils at the Monadnock Company site. The extent of VOCs in subsurface soils was evaluated using a two-phased approach. To complement the data collected in the Phase 2A investigation, a second soil gas survey was conducted within each area of potential VOC contamination identified in the Phase 2A investigation. Soil gas data from the Phase 2A and 2B investigations were then used to locate soil boring locations. Soil samples were collected from within each boring and chemically analyzed to evaluate the lateral and vertical extent of VOC contamination at the Monadnock Company site. The areas in which cyanide, chromium, and cadmium contamination were identified were further evaluated using similar soil sampling and analysis techniques.

### **2.1 Soil Gas Survey**

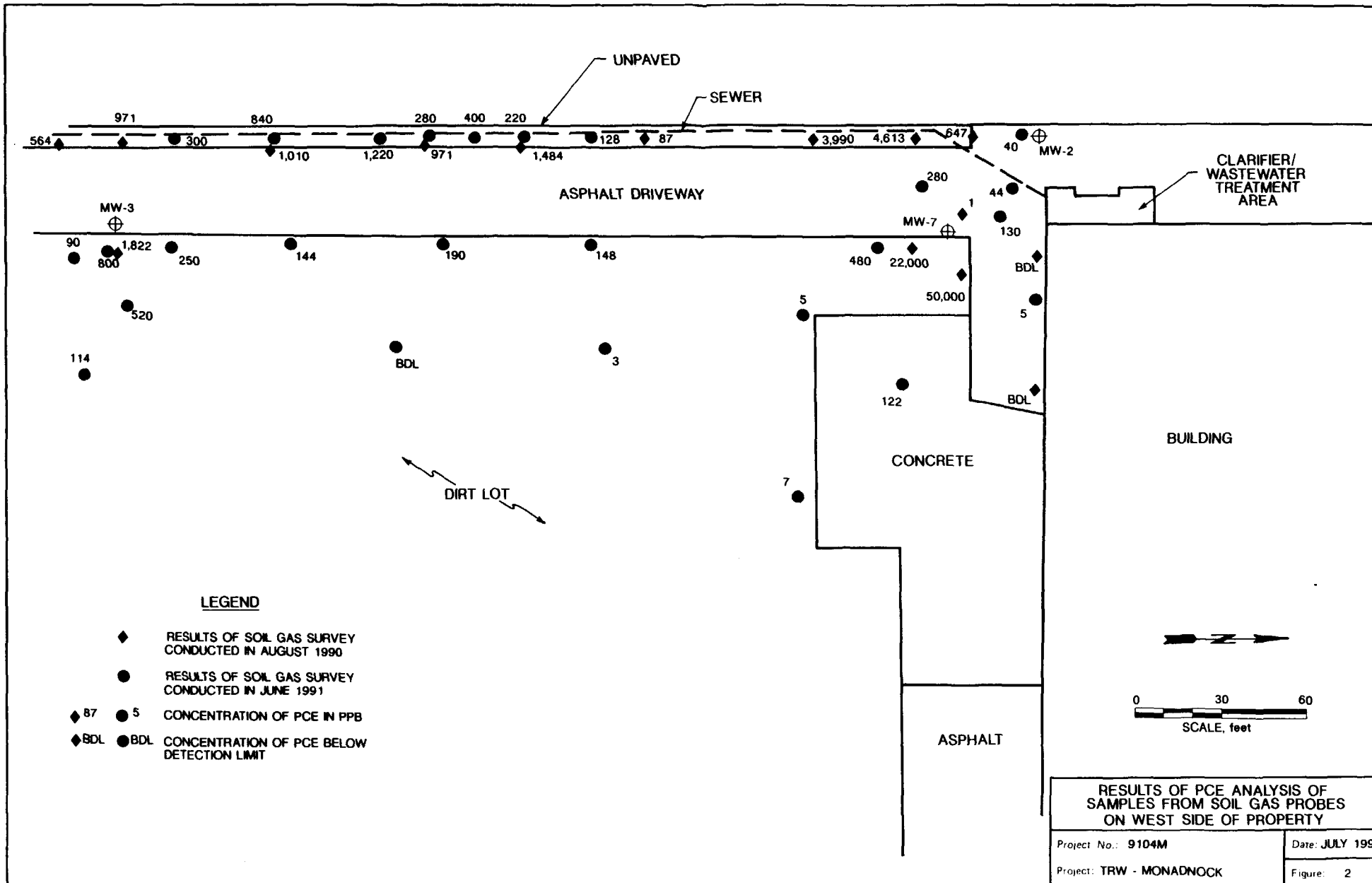
Soil gas sampling is used as an aid in broadly delineating the zone of subsurface materials containing elevated concentrations of volatile constituents. Used in this way, soil gas sampling is an effective, relatively non-disruptive technique to quickly identify the general extent of subsurface materials containing elevated levels of VOCs. This information can then be used to more effectively locate soil borings.

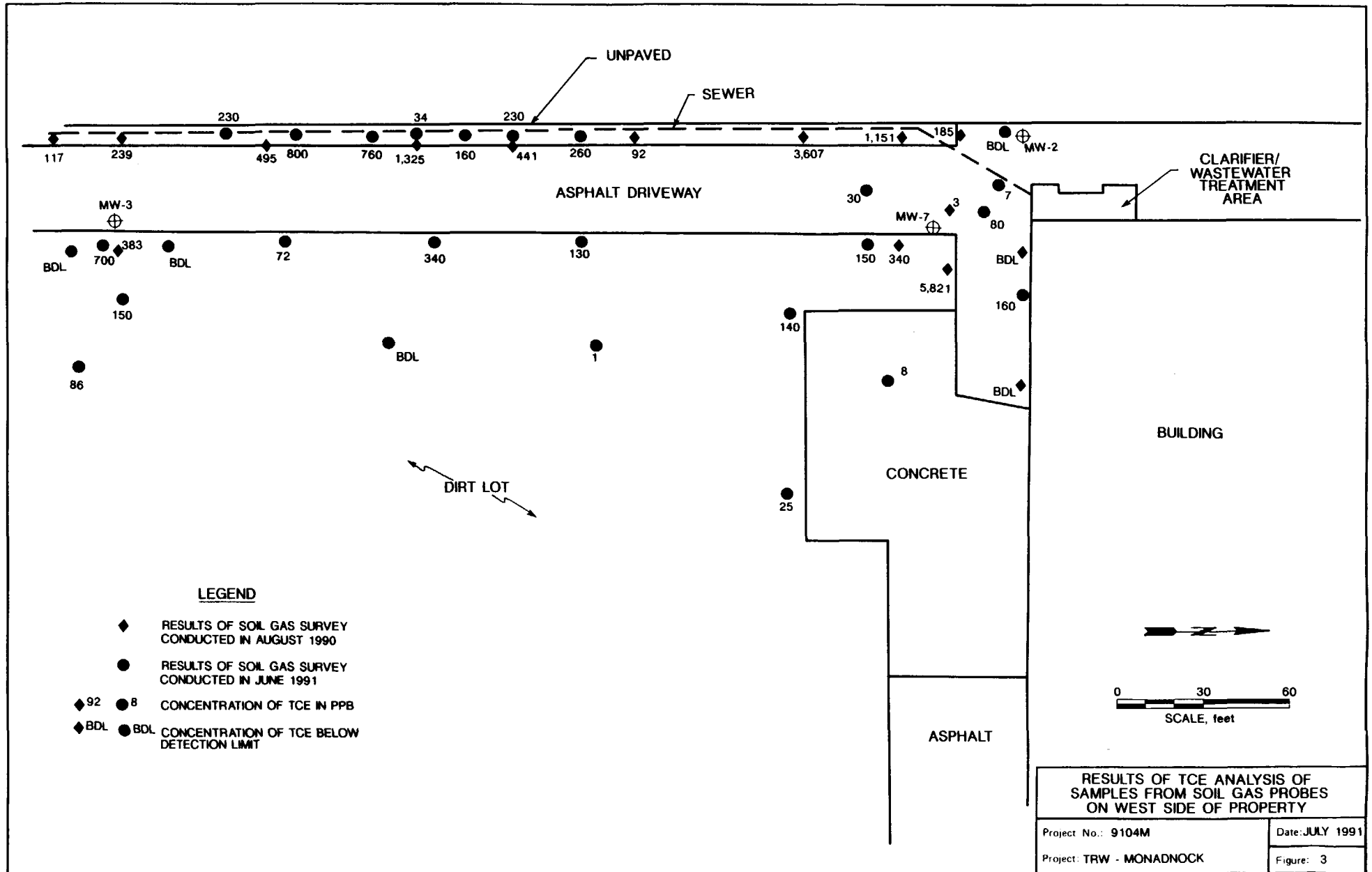
The following subsections outline the locations at which soil gas probes were placed during the Phase 2B investigation. Initial probe placement within each potential VOC contamination zone was guided by the data collected during the Phase 2A investigation. Subsequent probes within each zone were located based on the data from previous probes (probes were placed in areas that soil gas appeared to be migrating; no further soil gas work was conducted in areas of low soil gas VOC concentrations).

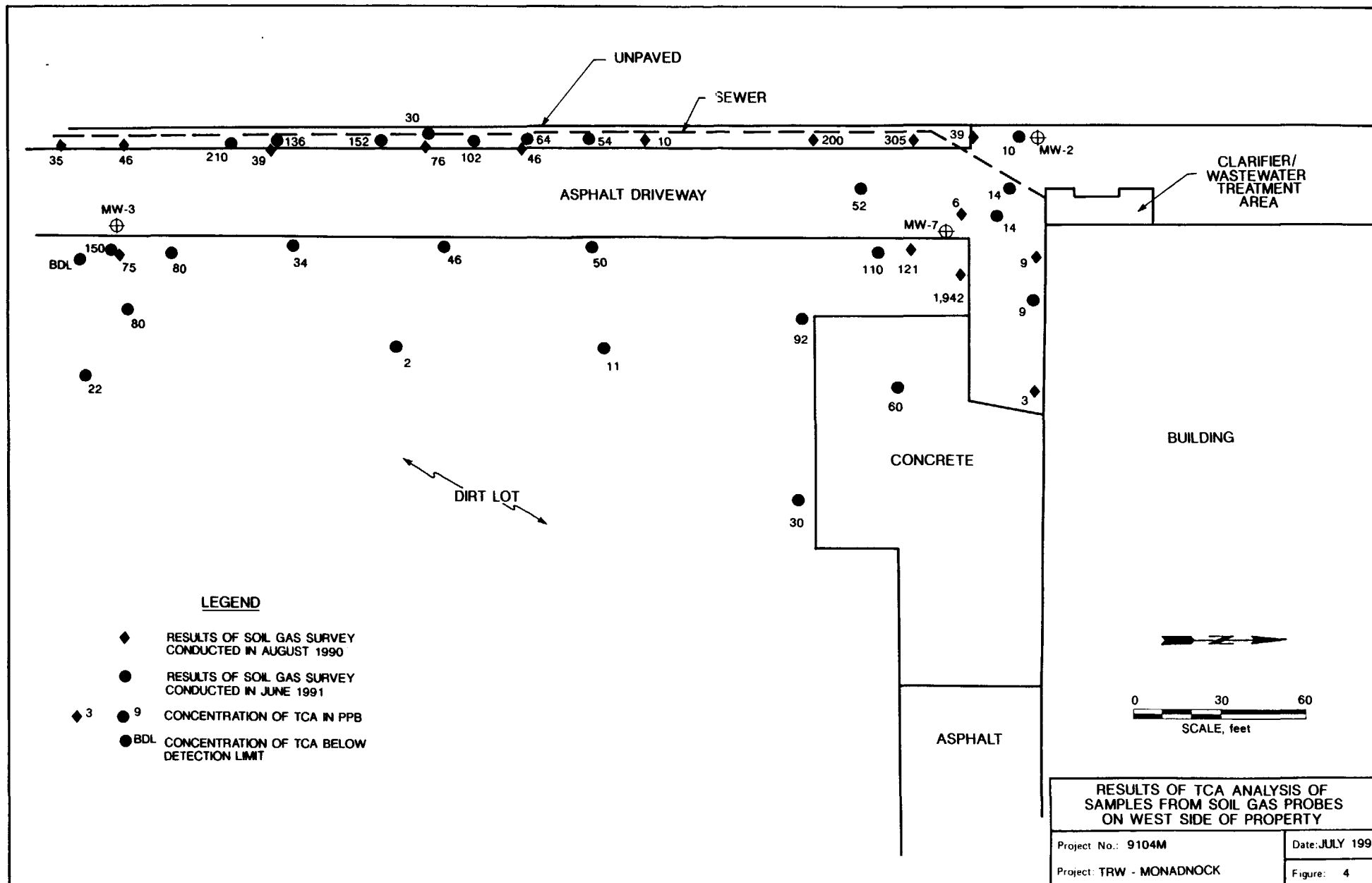
Protocols under which the soil gas survey was conducted are included in Appendix A. The locations of the probes (and the locations of the probes placed during the Phase 2A investigation) are shown on Figures 2 through 13.

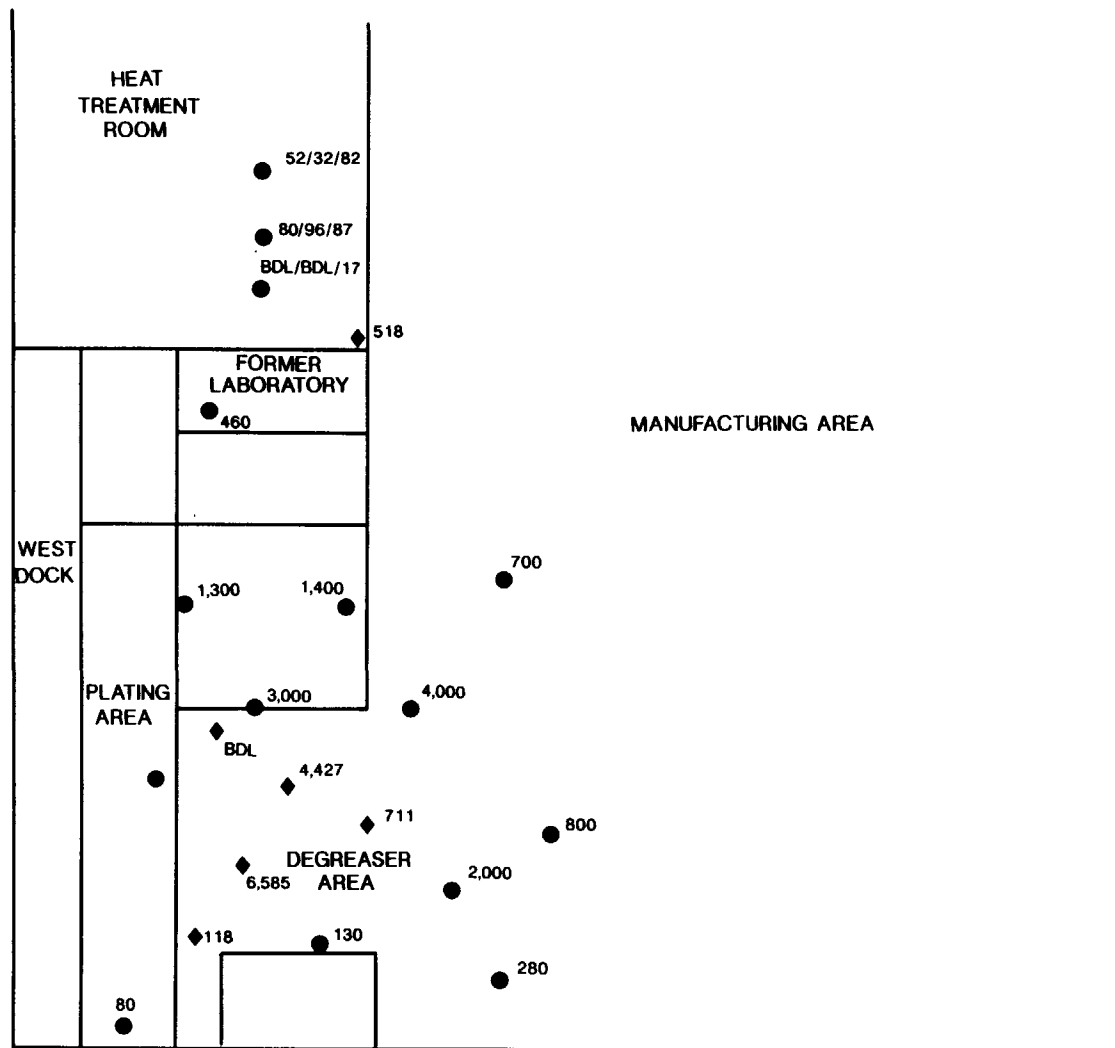
#### **2.1.1 Sewer Line from Clarifier to Street and Monitoring Well MW-3**

Two areas along the sewer line that runs from the clarifier to the main trunk line adjacent to Arenth Avenue and the area surrounding Monitoring Well MW-3 were identified during the Phase 2A investigation as possible VOC contamination zones. Accordingly, 17 probes were placed in these areas during the Phase 2B investigation.









#### LEGEND

- ◆ RESULTS OF SOIL GAS SURVEY CONDUCTED IN AUGUST 1990
- RESULTS OF SOIL GAS SURVEY CONDUCTED IN JUNE 1991
- ◆ 711 ● 86 CONCENTRATION OF PCE IN PPB
- ◆ BDL CONCENTRATION OF PCE BELOW DETECTION LIMIT

0 20 40  
SCALE, feet

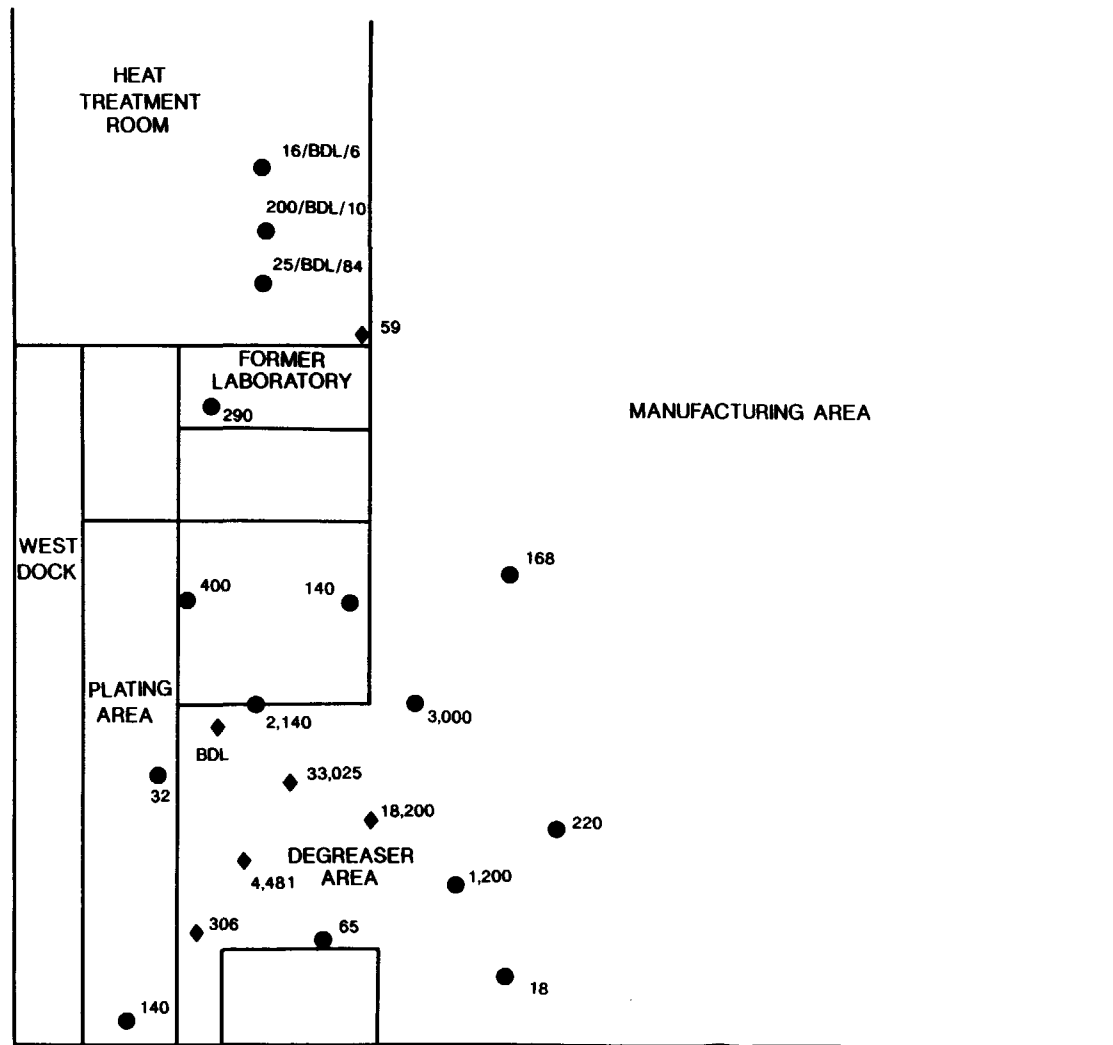
#### RESULTS OF PCE ANALYSIS OF SAMPLES FROM SOIL GAS PROBES INSIDE BUILDING

Project No.: 9104M

Date: JULY 1991

Project: TRW - MONADNOCK

Figure: 5



# LEGEND

- ◆ RESULTS OF SOIL GAS SURVEY CONDUCTED IN AUGUST 1990
- RESULTS OF SOIL GAS SURVEY CONDUCTED IN JUNE 1991
- ◆ 59
- 290 CONCENTRATION OF TCE IN PPB
- ◆ BDL CONCENTRATION OF TCE BELOW DETECTION LIMIT

0 20 40  
SCALE, feet

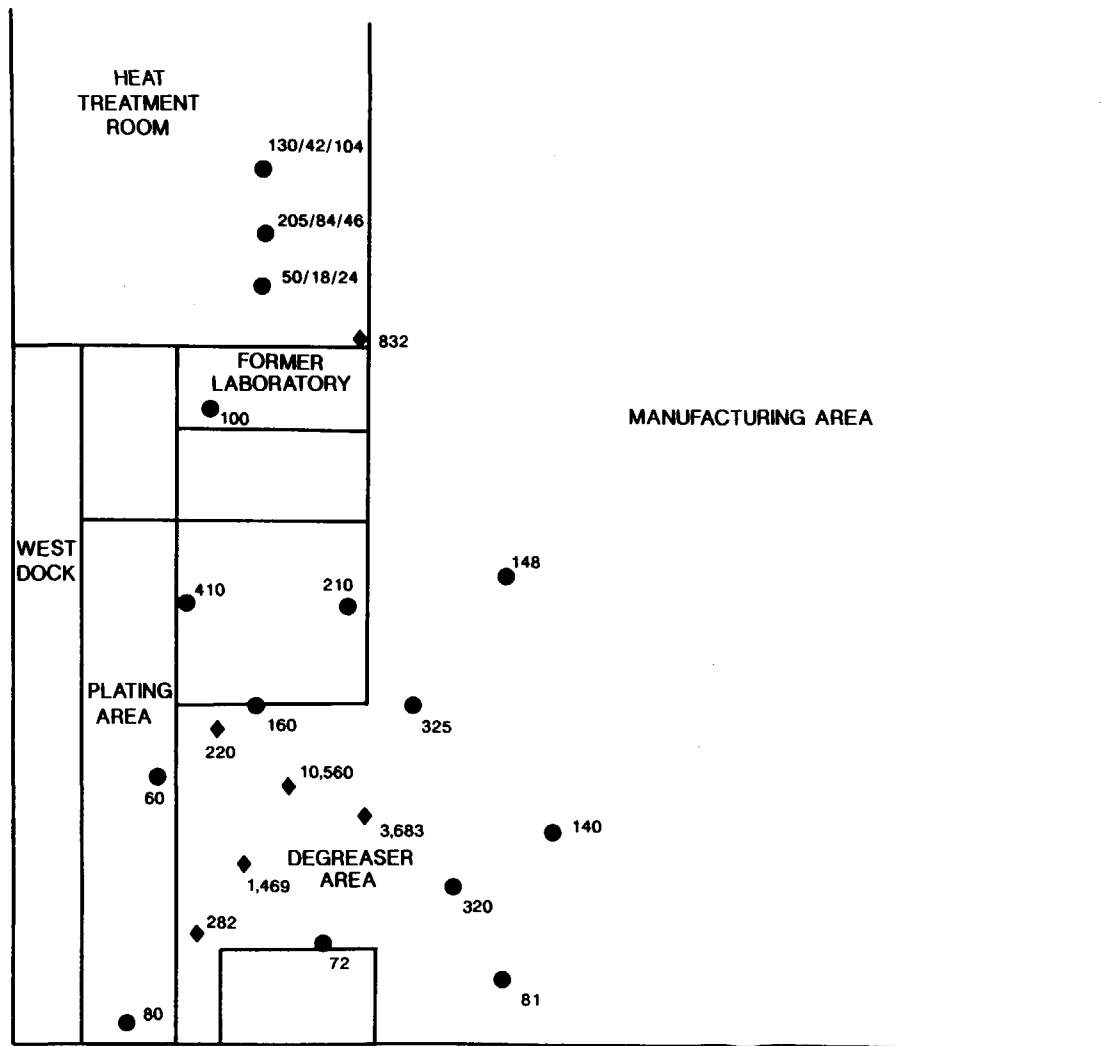
## RESULTS OF TCE ANALYSIS OF SAMPLES FROM SOIL GAS PROBES INSIDE BUILDING

Project No.: 9104M

Date: JULY 1991

Project: TRW - MONADNOCK

Figure: 6



#### LEGEND

- ◆ RESULTS OF SOIL GAS SURVEY CONDUCTED IN AUGUST 1990
- RESULTS OF SOIL GAS SURVEY CONDUCTED IN JUNE 1991
- ◆ 832 ● 100 CONCENTRATION OF TCA IN PPB

0 20 40  
SCALE, feet

#### RESULTS OF TCA ANALYSIS OF SAMPLES FROM SOIL GAS PROBES INSIDE BUILDING

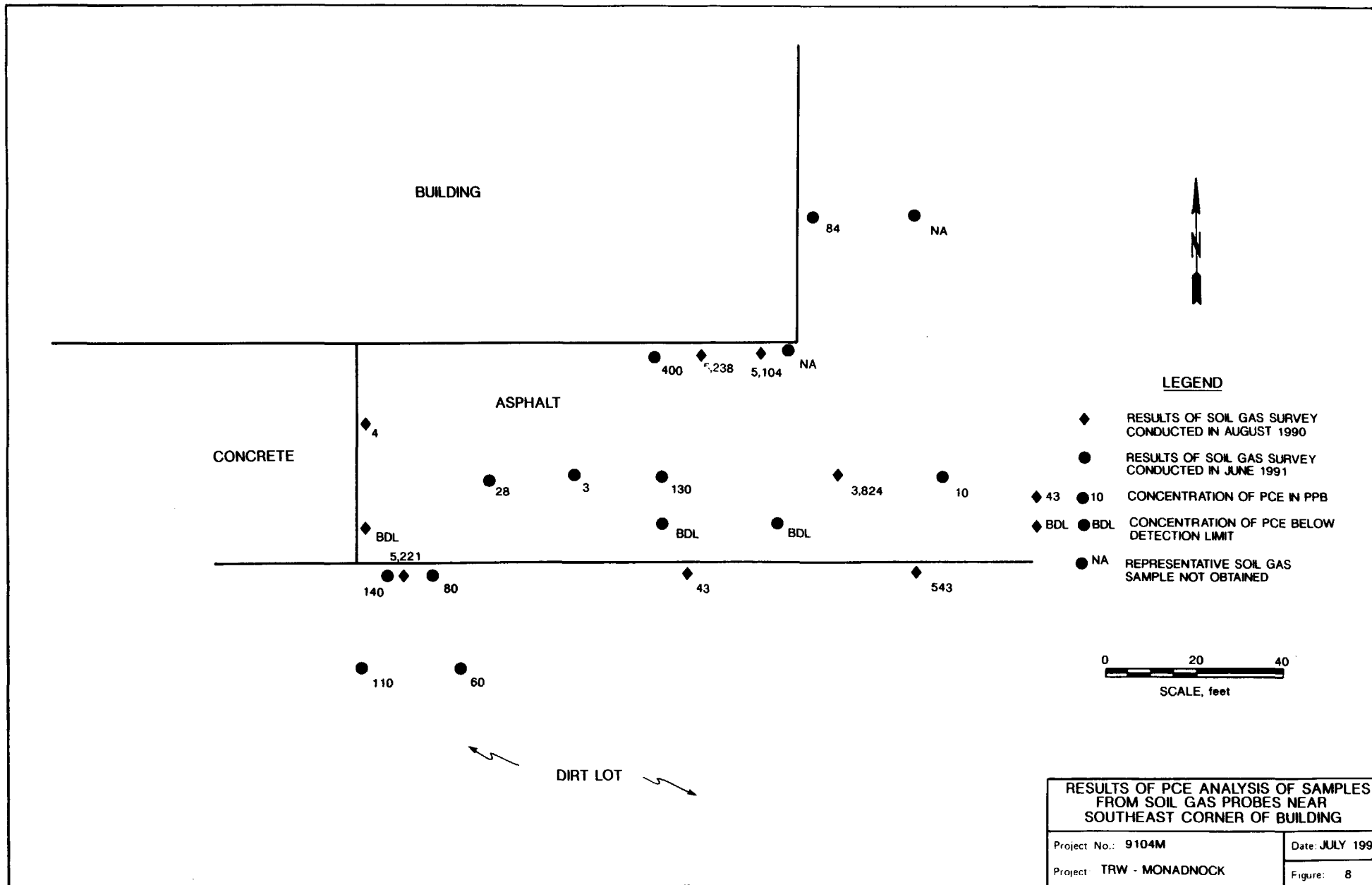
Project No.: 9104M

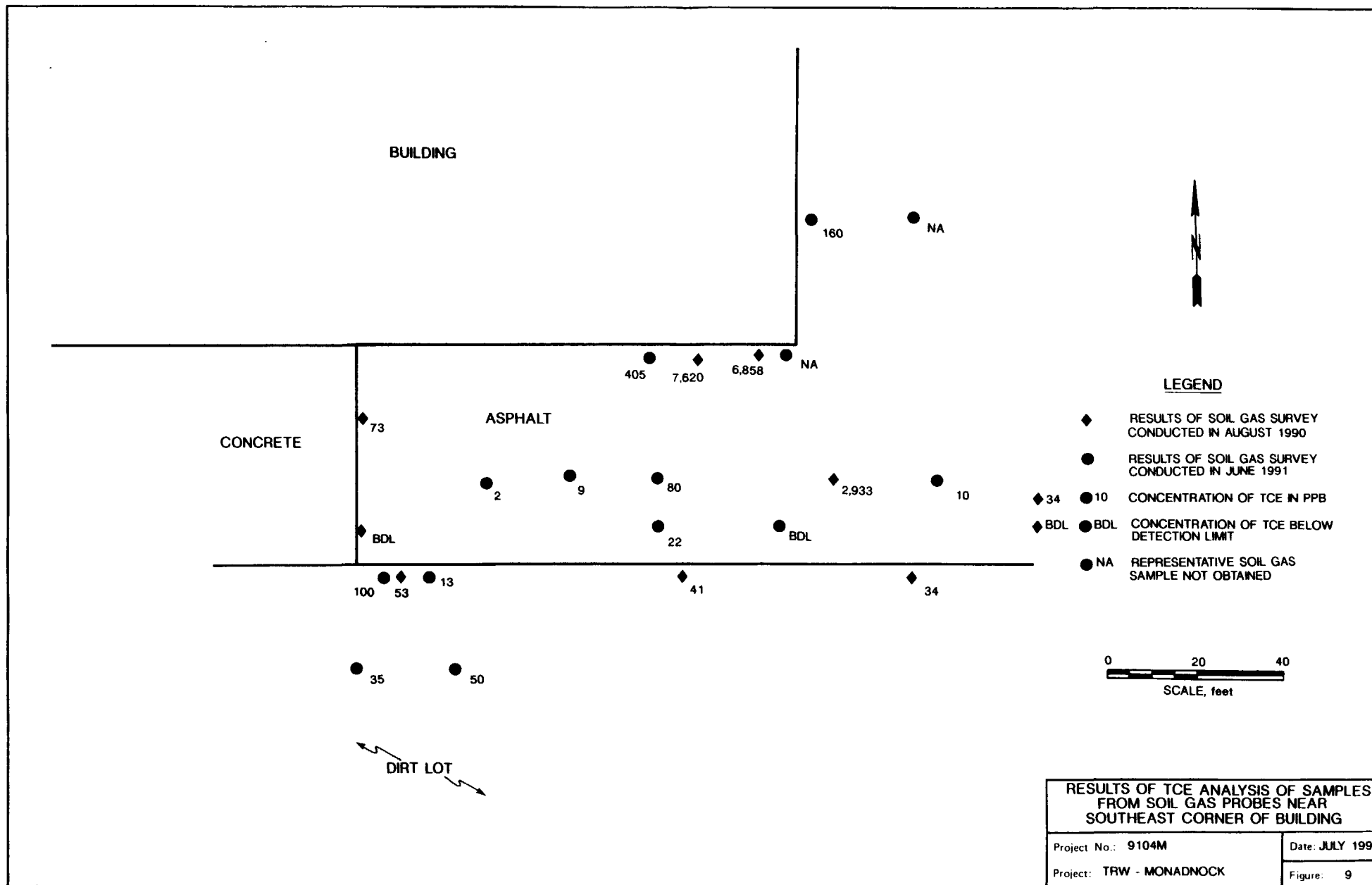
Date: JULY 1991

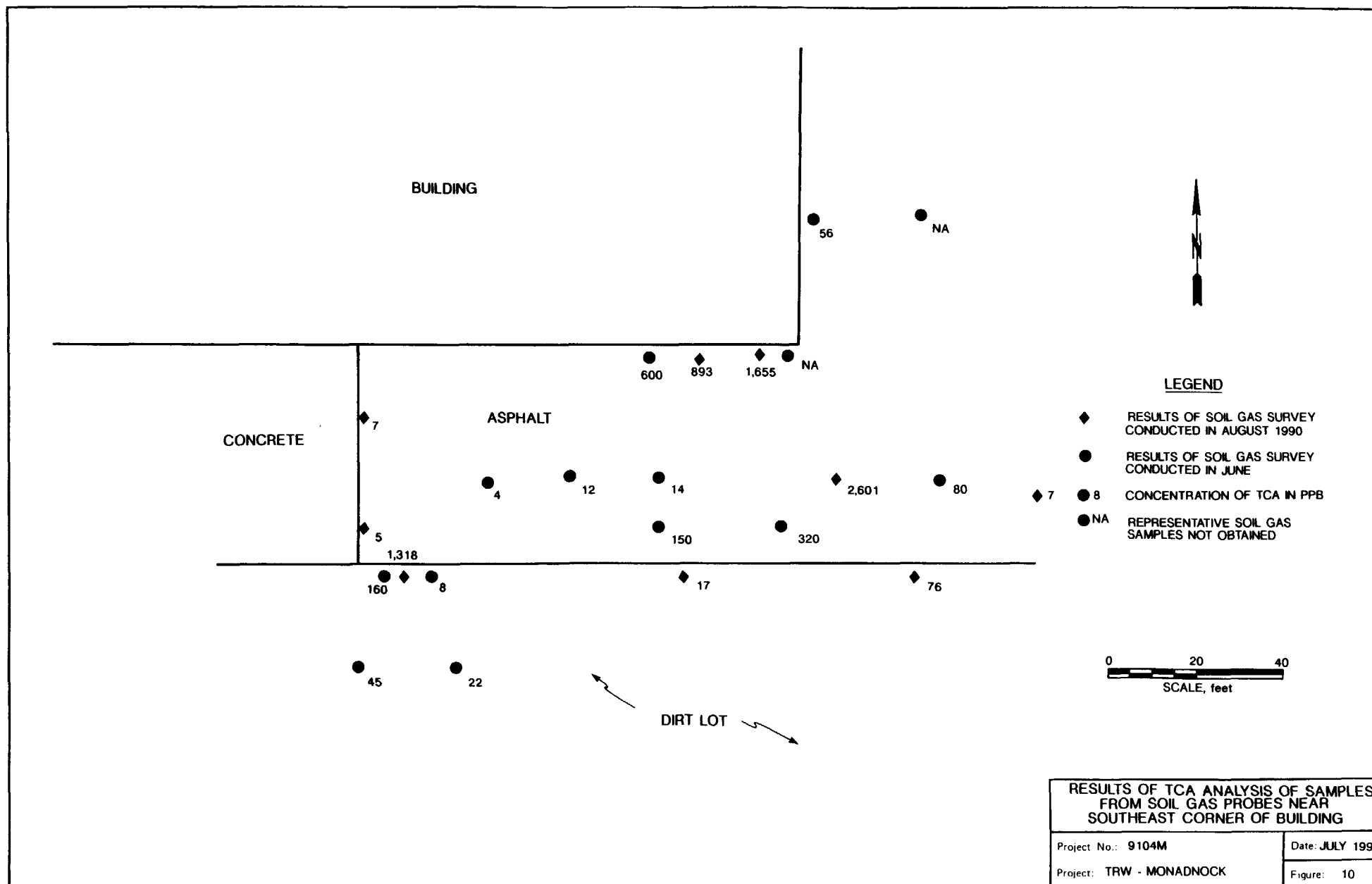
Project: TRW - MONADNOCK

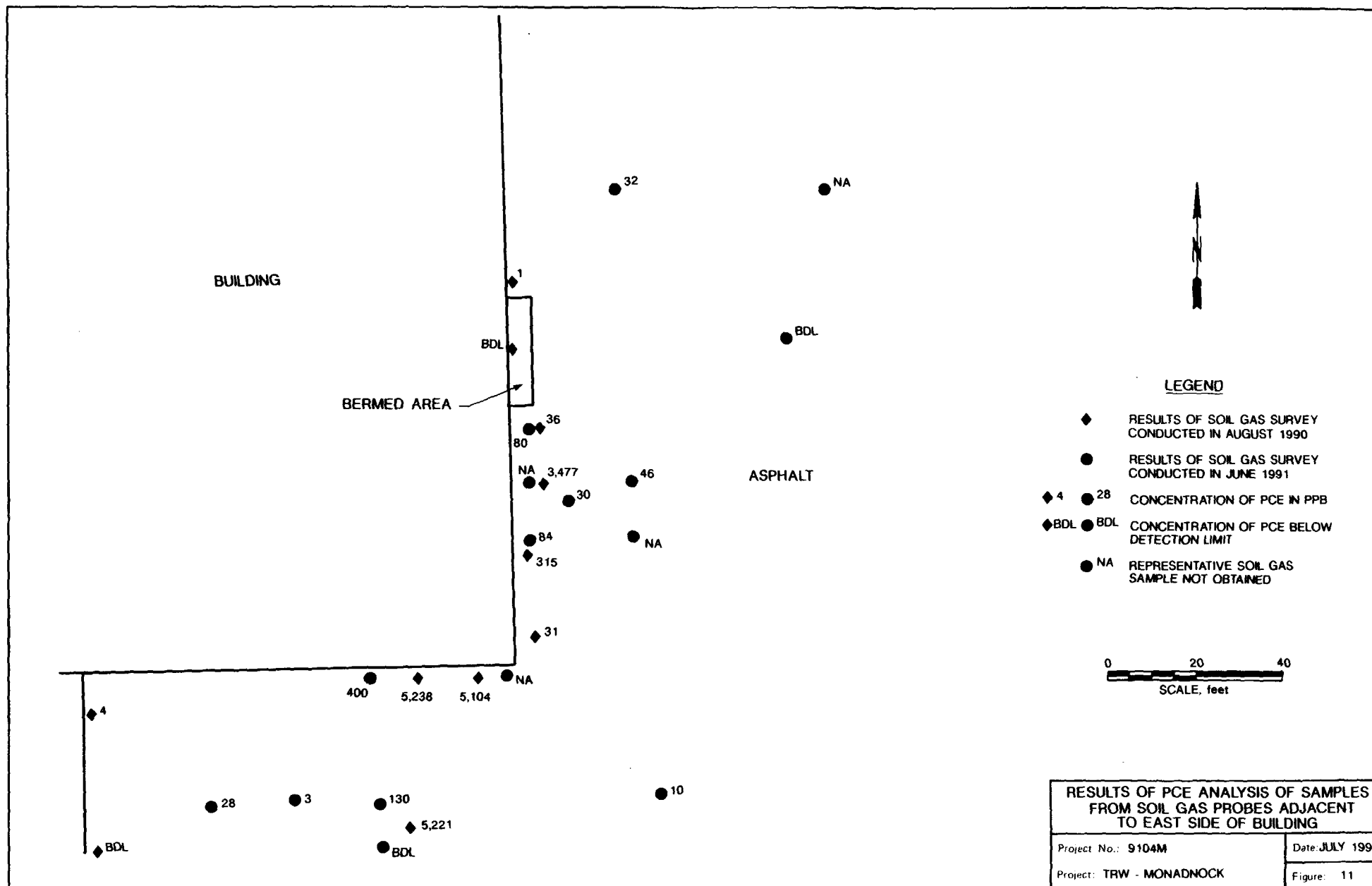
Figure: 7

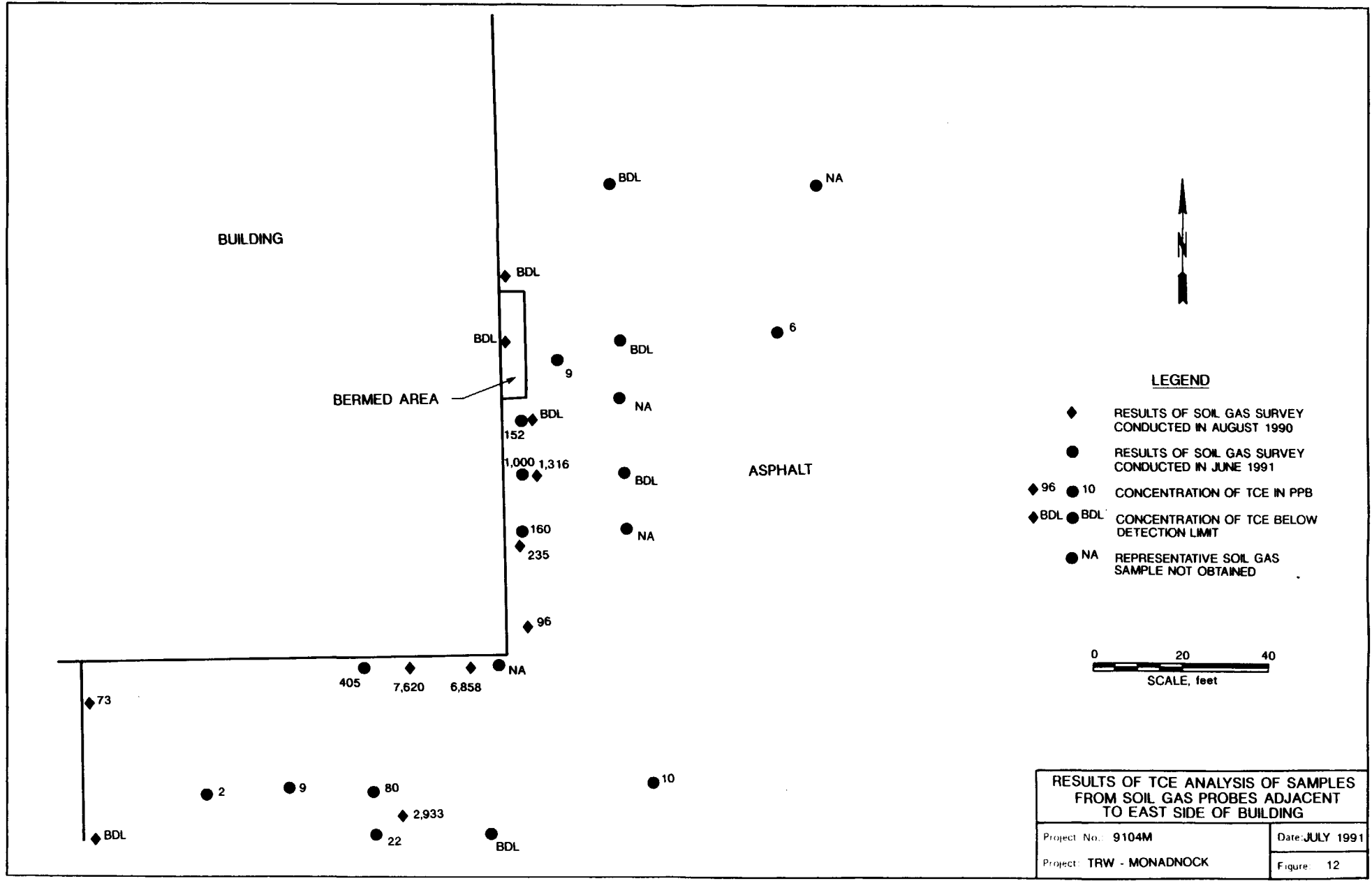


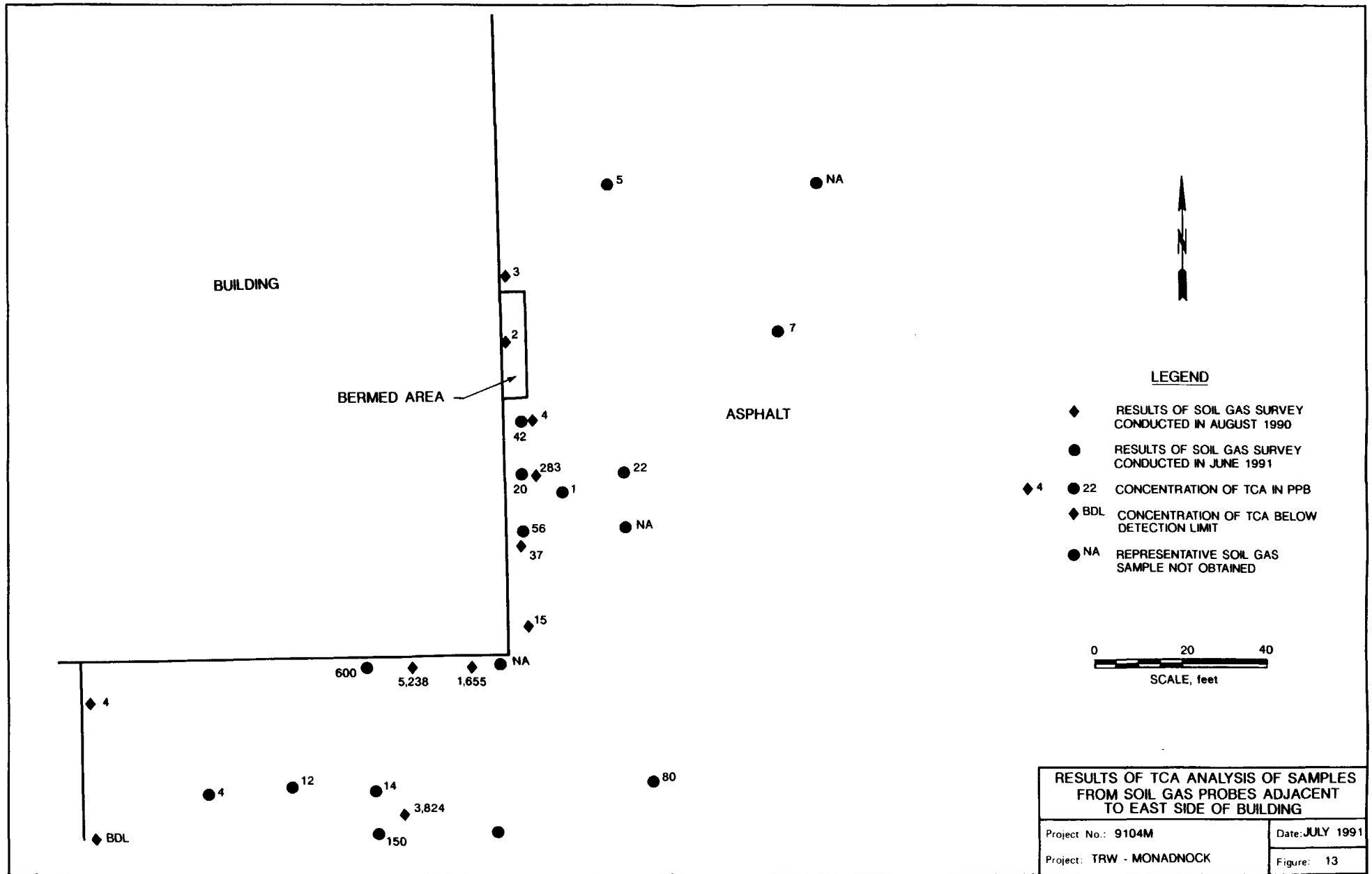












### **2.1.2 Area Adjacent to Southwest Corner of Building, Including Alleged Former Swamp Area, and Clarifier**

The area adjacent to the southwest corner of the building, including the alleged former swamp area, was identified as a potential VOC contamination zone during the Phase 2A investigation. To evaluate this premise, nine probes were placed in the area during the Phase 2B investigation.

As a result of the Phase 2A investigation, Woodward-Clyde suggested that TCA, TCE, and PCE detected in soil gas adjacent to the clarifier probably originated at the former swamp area and/or the sewer line. To test this hypothesis, two of the nine probes were placed between the clarifier and these areas during the Phase 2B investigation. The purpose of the probes was to obtain sufficient data to evaluate if migration of soil gas is occurring from either of the areas toward the clarifier.

### **2.1.3 Former Vapor Degreasers and Associated Floor Drains**

During the Phase 2A investigation, subsurface soil beneath the present degreaser area contained significantly-elevated concentrations of TCA, TCE, and PCE in the soil gas (up to tens of thousands of parts per billion). Nine probes were placed in this area during the Phase 2B investigation to further evaluate the extent of potential VOC contamination in the subsurface soils.

In its October 1990 report, Woodward-Clyde suggested that soil gas is migrating from the degreaser area toward the heat treatment room. Consequently, as part of the Phase 2B investigation, three probes were placed in intervening rooms. In addition, three probes were placed at multiple depths (approximately 4, 8, and 12 feet below the floor surface) in the heat treatment room.

### **2.1.4 Concrete/Asphalt Interface South of Building**

Previous sampling during the Phase 2A investigation indicated that VOC contamination may be present along the concrete/asphalt interface extending south from the southern loading dock. Accordingly, five soil gas probes were placed in this area during the Phase 2B investigation.

### **2.1.5 East Parking Lot Area**

Based on the results of the Phase 2A investigation, Woodward-Clyde believed that the concentrations of TCA, TCE, and PCE (up to hundreds of parts per billion) detected in soil gas in the east parking lot area probably represent migration of soil gas from other source areas at the site. To evaluate this premise, two probes were placed in the east parking lot area during the Phase 2B investigation.

### **2.1.6 Area Adjacent to Southeast Corner of Building**

Soil gas probes were installed in the area adjacent to the southeast corner of the building during the Phase 2A investigation. Because elevated concentrations of TCA, TCE, and PCE (up to thousands of parts per billion) were detected in the soil gas proximate to the southeast corner of the building, seven probes were installed in this area during the Phase 2B investigation.

### **2.1.7 Former Chemical Storage Areas**

Organic chemicals are reported to have been stored or used historically in the following areas:

- o Bermed area along east wall of building
- o West side of building between dock storage area and southwest corner
- o West dock storage area along paving/dock interface
- o Pavement line south and east of building

To evaluate potential VOC contamination in these areas, soil gas probes were placed in these areas during the Phase 2A investigation. Concentrations of TCA, TCE, and PCE of up to hundreds of parts per billion were detected in the soil gas. However, Woodward-Clyde believed that these concentrations represent migration of soil gas from other source areas at the site.

The RWQCB concurred with this hypothesis for the latter three areas. However, because of lingering concerns regarding the bermed area outside the east wall of the building, one probe was placed in this area during the Phase 2B investigation.

### **2.1.8 Former Underground Storage Tank Location**

Concentrations of TCA and PCE of up to tens of parts per billion were detected in soil gas in this area during the Phase 2A investigation. However, Woodward-Clyde believed that these concentrations represent migration of soil gas from other source areas at the site. Because the RWQCB concurred with this belief, no further work was done in this area during the Phase 2B investigation.

## **2.2 Results of Phase 2B Soil Gas Survey**

Results of the Phase 2B soil gas survey are shown on Figures 2 through 13. The results of the Phase 2A soil gas survey are also shown on these figures.



A comparison of results of the soil gas surveys indicates that the concentrations of TCA, TCE, and PCE in soil gas decreased from the time of the Phase 2A investigation to the time of the Phase 2B investigation. This phenomenon is especially noticeable along the sewer line and the southwest and southeast corners of the building. IDEA believes that surface water infiltrated subsurface soils in these areas (substantial rain was recorded in southern California during March 1991), resulting in a lowering of concentrations of organics in the soil gas. Lending credence to this theory is the fact that concentrations of TCA, TCE, and PCE did not significantly change in soil gas beneath the former degreaser area. This area, being beneath the manufacturing building, is protected from surface water intrusion.

Based on (1) historical site use data (presented in the October 1990 Woodward-Clyde report) and (2) the results of the soil gas surveys conducted during the Phase 2A and Phase 2B investigations, soil boring locations were located from which soil samples were collected and chemically analyzed. Details of the soil sampling and analysis program are provided in Section 3.0.

### **3.0 SOIL SAMPLING AND ANALYSIS PROGRAM**

To evaluate the lateral and vertical extent of VOCs, cyanide, cadmium, and chromium in subsurface soils at the Monadnock Company site, soil samples were collected and chemically analyzed. The following subsections describe the soil sampling and analysis program.

#### **3.1 Locations of Soil Borings to Evaluate Potential VOC Contamination**

Based on historical use data for the site and the results of the Phase 2A and Phase 2B investigations, the following areas were identified for inclusion in the soil sampling and analysis program:

- o sewer line and area adjacent to Monitoring Well MW-3
- o southwest corner of building and alleged former swamp area
- o southeast corner of building and bermed area along east wall of building
- o degreaser area inside building
- o pavement line south of building

Soil boring locations, shown on Figures 14 through 16, were chosen using the following criteria:

- o Organic chemicals and/or wastes had been historically used or stored in an area. Boring locations were chosen to evaluate potential VOC contamination in subsurface soils within the area.
- o Significant concentrations of VOCs were detected in soil gas within an area. Boring locations were selected to assess potential VOC contamination in subsurface soils at (1) the location of the highest concentrations of VOCs in the soil gas of an area and (2) the edge of the suspected VOC plume within the area. The edge of the suspected VOC plume was defined as the locus of points at which the concentration of VOCs in the soil gas was an order of magnitude less than the highest concentrations of VOCs in the soil gas for that area.

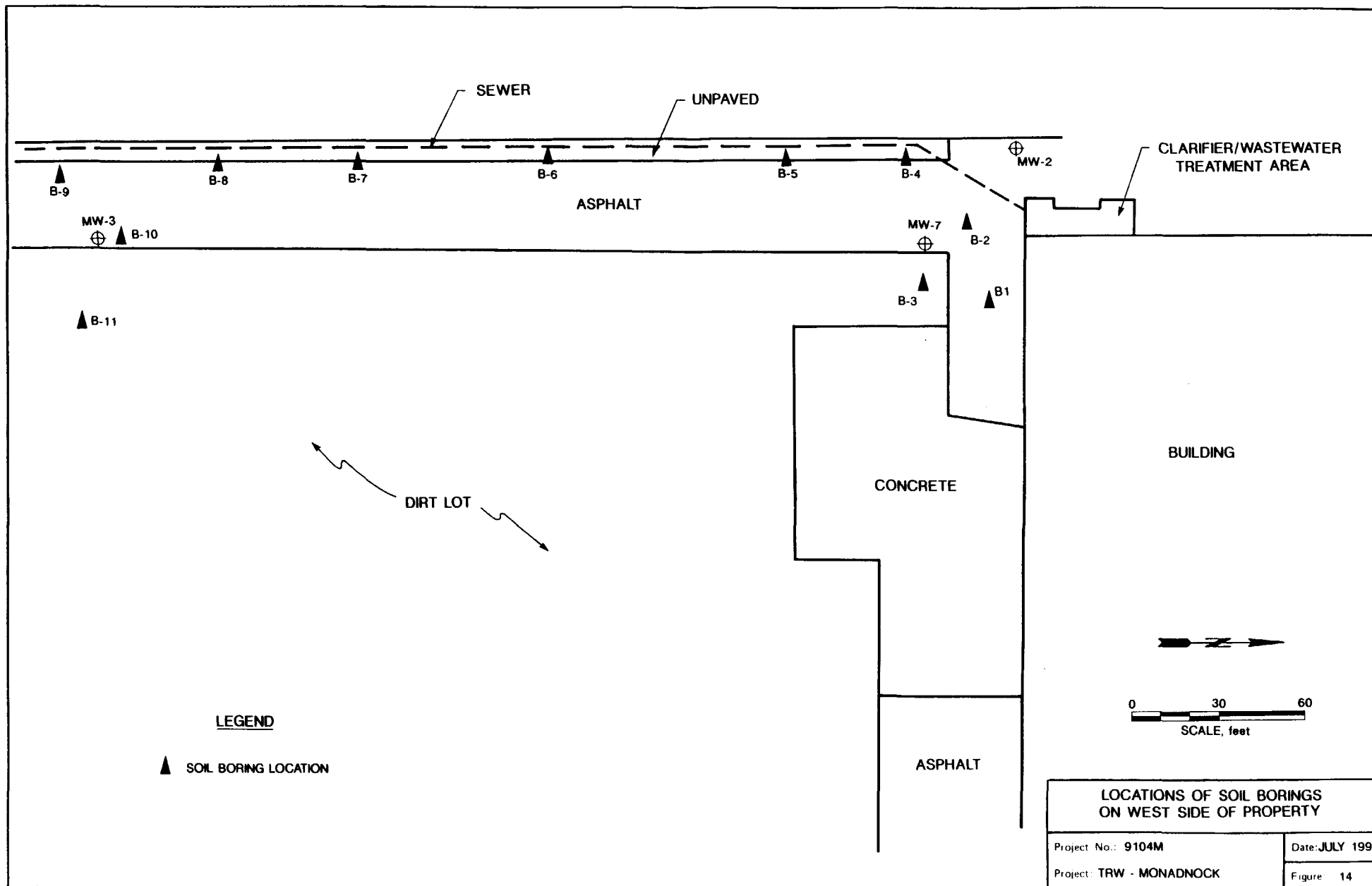
As an illustration, seven soil borings (Borings B-13 through B-17, B-19, and B-21) were located in the degreaser area within the manufacturing building. Borings B-13 and B-14 were located within the area exhibiting the highest VOC concentrations (tens of thousands of parts per billion). The five remaining borings, sited to evaluate the lateral extent of VOC contamination in the subsurface soils, were placed in areas containing thousands of parts per billion of VOCs in the soil gas.

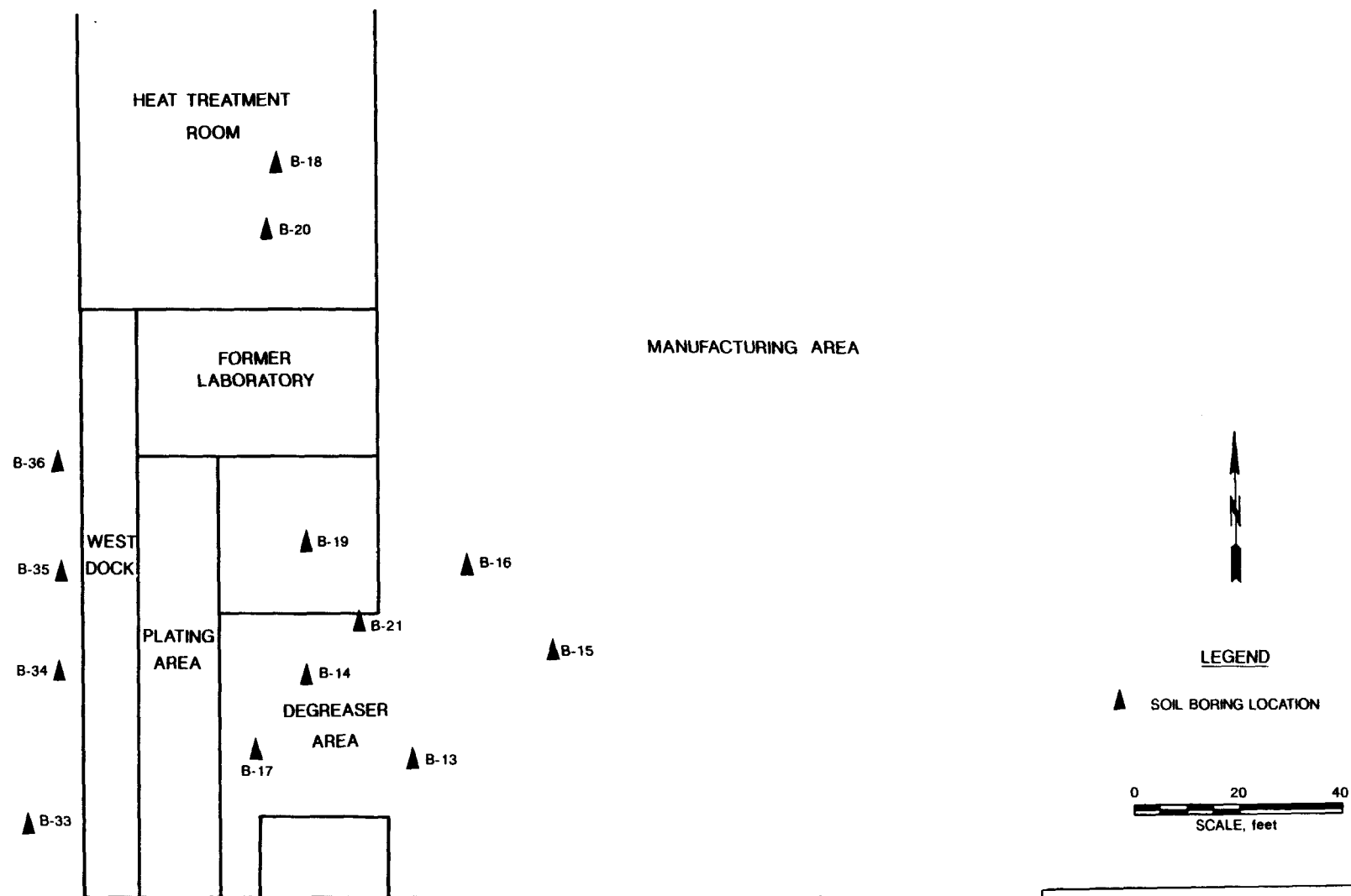
### **3.2 Locations of Soil Borings to Evaluate Potential Cyanide, Cadmium, and Chromium Contamination**

The areas in which cyanide, chromium, and cadmium contamination were identified during the Phase 2A investigation were also further evaluated during the soil sampling and analysis program. Six soil borings (Borings B-18, B-20, and B-33 through B-36) were drilled in the heat treatment room and along the west dock area. Borings B-18 and B-20 were located to evaluate both potential cyanide and VOC contamination in the heat treatment room. Borings B-33 through B-36 were sited to assess potential cyanide contamination along the west dock area. In addition, Borings B-33 and B-34 were used to evaluate potential cadmium and chromium contamination adjacent to the clarifier and west dock storage area, respectively. The locations of the soil borings are shown on Figures 14 through 16.

### **3.3 Locations of Soil Borings to Evaluate Potential Contamination Adjacent to Bermed Area on East Side of Building**

Because of continuing concerns of the RWQCB about potential contamination adjacent to the bermed area on the east side of the building, two shallow soil borings (Borings B-31 and B-32) were drilled in this area. Near-surface soil samples were collected from each boring to assess VOC and petroleum-related compound contamination near the bermed area. If VOCs or





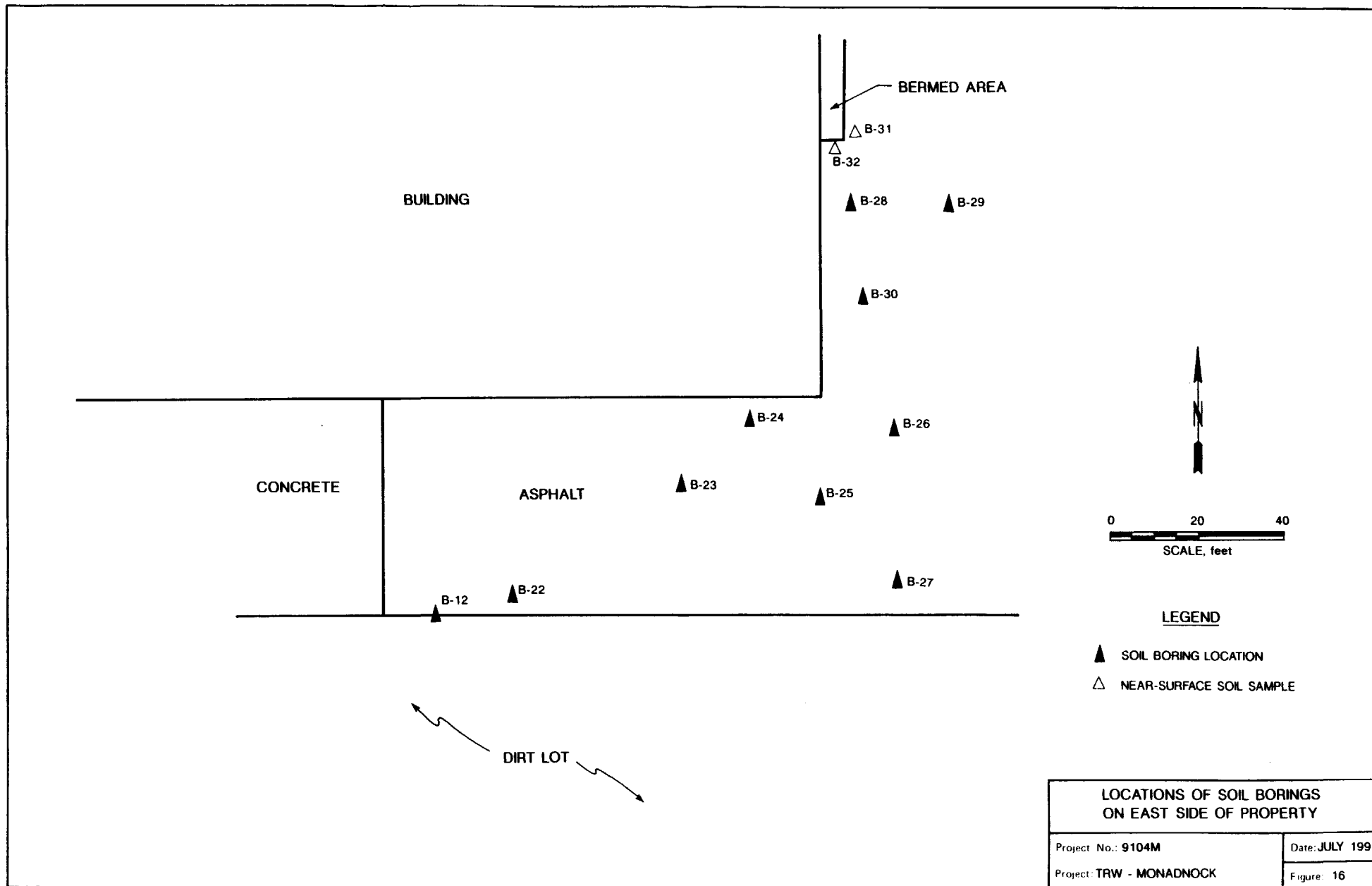
**LOCATIONS OF SOIL BORINGS  
INSIDE BUILDING AND  
ALONG WEST DOCK**

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Project TRW - MONADOCK

Figure: 15



petroleum-related compounds are detected in the soil samples, a more extensive soil sampling and analysis program would be conducted in and around the bermed area during a future phase of investigation.

### **3.4 Drilling and Soil Sampling**

Borings B-31 and B-32, located next to the bermed area on the east side of the building, were drilled to an approximate depth of 0.5 feet. One soil sample was collected from the bottom of each boring.

The remainder of the borings were drilled to approximately 25 feet below grade. Borings were not extended beyond this depth to avoid contact with the underlying ground water, present at about 30 feet below the ground surface. To evaluate the vertical extent of contaminants in the subsurface soils, soil samples were collected at 5-foot intervals within each boring.

Drilling and soil sampling protocols are summarized in Appendix B. Copies of the boring logs are presented in Appendix C.

The drill cuttings and decontamination wastewater were placed in 55-gallon drums and stored onsite. The drums containing the drill cuttings were labeled as to boring location and depth. The drums containing the decontamination wastewater were labeled as such. The soil cuttings and wastewater will be disposed of either onsite or at an appropriate waste disposal facility.

### **3.5 Chemical Analyses of Soil Samples**

Soil samples were delivered under chain-of-custody documentation to CKY Analytical Laboratories, a California-certified hazardous waste analytical laboratory. The samples were analyzed as follows:

#### **ORGANIC COMPOUND ANALYSES**

- o Soil samples collected along the sewer, near Monitoring Well MW-3, inside the building, and along the pavement/dirt interface south of the building (Borings B-1 through B-22) were analyzed for purgeable halogenated volatile organics using EPA Method 8010.
- o Soil samples collected from the area near the southeast corner of the building (Borings B-23 through B-30) were analyzed for VOCs using EPA Method 8260.
- o Soil samples collected immediately adjacent to the bermed area along the east wall of the building (Borings B-31 and B-32) were analyzed for VOCs using EPA Method 8260 and total petroleum hydrocarbons using EPA Method 418.1.

### **INORGANIC COMPOUND ANALYSES**

- o Soil samples collected along the west dock area and the heat treatment room (Borings B-18, B-20, and B-33 through B-36) were analyzed for cyanide using EPA Method 335.2.
- o Soil samples collected adjacent to the clarifier (Boring B-33) were analyzed for cadmium using EPA Methods 3050/6010.
- o Soil samples collected from Boring B-34 were analyzed for chromium using EPA Methods 3050/6010.

Results of the chemical analyses of the soil samples are presented in Table 1 and are shown on Figures 17 through 21. Copies of the chain-of-custody forms and the analytical laboratory reports are included in Appendix D.

### **3.6 Quality Assurance/Quality Control Samples**

The following quality assurance/quality control (QA/QC) samples were incorporated into the soil sample analysis program:

- o surrogate recovery samples
- o matrix spike and spike duplicate samples

Results of the analysis of the QA/QC samples were within specifications established by CKY Analytical Laboratories. These specifications were developed in conformance with U.S. Environmental Protection Agency and California Environmental Protection Agency guidelines.

### **4.0 DISCUSSION OF RESULTS AND CONCLUSIONS**

Based on the historical uses of the site, the locations of potential pathways (underground structures, piping, drains) for contaminants to impact subsurface soils, and the analytical data generated during the Phase 2A and Phase 2B investigations, IDEA concludes that chemical contaminants have impacted subsurface soils at the Monadnock Company site. The degree of impact varies as to chemical constituent and location at the site.

**TABLE 1**  
**RESULTS OF CHEMICAL ANALYSES OF SOIL SAMPLES**

SAMPLE IDENTIFICATION	SAMPLE DEPTH (feet)	CT (µg/kg)	DCE (µg/kg)	PCE (µg/kg)	TCA (µg/kg)	TCE (µg/kg)	CYN (mg/kg)	CAD (mg/kg)	CHR (mg/kg)	TPH (mg/kg)
BORING B-1	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	9	ND(5)	ND(5)				
	15	ND(5)	ND(5)	7	ND(5)	ND(5)				
	20	ND(5)	ND(5)	12	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-2	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	6	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-3	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-4	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-5	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	7	ND(5)	8				
BORING B-6	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				



TABLE 1 CONTINUED

SAMPLE IDENTIFICATION	SAMPLE DEPTH (feet)	CT ( $\mu\text{g/kg}$ )	DCE ( $\mu\text{g/kg}$ )	PCE ( $\mu\text{g/kg}$ )	TCA ( $\mu\text{g/kg}$ )	TCE ( $\mu\text{g/kg}$ )	CYN (mg/kg)	CAD (mg/kg)	CHR (mg/kg)	TPH (mg/kg)
BORING B-7	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-8	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-9	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-10	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-11	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-12	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	11	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-13	5	ND(5)	ND(5)	220	ND(5)	88				
	10	ND(5)	ND(5)	27	ND(5)	ND(5)				
	15	ND(5)	ND(5)	6	ND(5)	ND(5)				
	20	12	ND(5)	43	ND(5)	19				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				

TABLE 1 CONTINUED

SAMPLE IDENTIFICATION	SAMPLE DEPTH (feet)	CT ( $\mu\text{g/kg}$ )	DCE ( $\mu\text{g/kg}$ )	PCE ( $\mu\text{g/kg}$ )	TCA ( $\mu\text{g/kg}$ )	TCE ( $\mu\text{g/kg}$ )	CYN (mg/kg)	CAD (mg/kg)	CHR (mg/kg)	TPH (mg/kg)
BORING B-14	5	ND(5)	120	780	ND(5)	170				
	10	ND(5)	16	78	ND(5)	21				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-15	5	ND(5)	ND(5)	14	ND(5)	ND(5)				
	10	ND(5)	ND(5)	15	ND(5)	7				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-16	5	ND(5)	ND(5)	130	ND(5)	ND(5)				
	10	ND(5)	ND(5)	61	ND(5)	45				
	15	ND(5)	ND(5)	10	ND(5)	5				
	20	ND(5)	ND(5)	9	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-17	5	ND(5)	ND(5)	1100	ND(5)	230				
	10	ND(5)	ND(5)	39	ND(5)	15				
	15	ND(5)	ND(5)	6	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-18	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
BORING B-19	5	ND(5)	110	ND(5)	1D(5)	11				
	10	ND(5)	ND(5)	7	ND(5)	ND(5)				
	15	ND(5)	ND(5)	12	ND(5)	7				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-20	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2)			

TABLE 1 CONTINUED

SAMPLE IDENTIFICATION	SAMPLE DEPTH (feet)	CT ( $\mu\text{g/kg}$ )	DCE ( $\mu\text{g/kg}$ )	PCE ( $\mu\text{g/kg}$ )	TCA ( $\mu\text{g/kg}$ )	TCE ( $\mu\text{g/kg}$ )	CYN (mg/kg)	CAD (mg/kg)	CHR (mg/kg)	TPH (mg/kg)
BORING B-21	5	ND(5)	92	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	29	ND(5)	14				
	15	ND(5)	ND(5)	10	ND(5)	ND(5)				
	20	ND(5)	ND(5)	15	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-22	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-23	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	14	ND(5)	11				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-24	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-25	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	16	ND(5)	10				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-26	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-27	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				

TABLE 1 CONTINUED

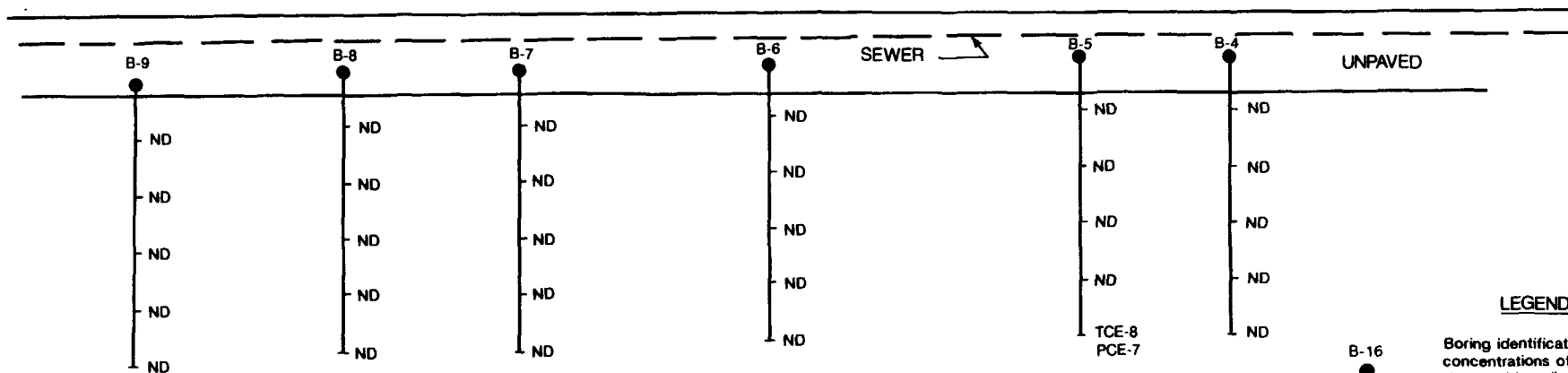
SAMPLE IDENTIFICATION	SAMPLE DEPTH (feet)	CT ( $\mu\text{g/kg}$ )	DCE ( $\mu\text{g/kg}$ )	PCE ( $\mu\text{g/kg}$ )	TCA ( $\mu\text{g/kg}$ )	TCE ( $\mu\text{g/kg}$ )	CYN (mg/kg)	CAD (mg/kg)	CHR (mg/kg)	TPH (mg/kg)
BORING B-28	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-29	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-30	5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	10	ND(5)	ND(5)	6.1	ND(5)	ND(5)				
	15	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	20	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
	25	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				
BORING B-31	0.5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				33
BORING B-32	0.5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)				76
BORING B-33	5						ND(2)	5.0		
	10						ND(2)	5.0		
	15						ND(2)	5.0		
	20						ND(2)	2.0		
	25						ND(2)	2.0		
BORING B-34	5						ND(2)		30	
	10						ND(2)		26	
	15						ND(2)		30	
	20						ND(2)		8.0	
	25						ND(2)		6.0	
BORING B-35	5						ND(2)			
	10						ND(2)			
	15						ND(2)			
	20						ND(2)			
	25						ND(2)			

**TABLE 1 CONTINUED**

SAMPLE IDENTIFICATION	SAMPLE DEPTH (feet)	CT (µg/kg)	DCE (µg/kg)	PCE (µg/kg)	TCA (µg/kg)	TCE (µg/kg)	CYN (mg/kg)	CAD (mg/kg)	CHR (mg/kg)	TPH (mg/kg)
BORING B-36	5						ND(2)			
	10						ND(2)			
	15						ND(2)			
	20						ND(2)			
	25						ND(2)			

**NOTES:**

- (1) CT means carbon tetrachloride.  
DCE means cis-1,2-dichloroethene.  
PCE means tetrachloroethene.  
TCA means 1,1,1-trichloroethane.  
TCE means trichloroethene.  
CYN means cyanide.  
CAD means cadmium.  
CHR means chromium.  
TPH means total petroleum hydrocarbons.
- (2) ND( ) means not detected at the concentration shown in parentheses.
- (3) Blank entries indicate that specific analysis was not conducted.
- (4) Only those compounds or elements specifically detected are listed in Table 1. Compounds whose concentrations were below the detection limits in the respective analytical laboratory reports included in Appendix D.



# **LEGEND**

Boring identification and concentrations of VOCs ( $\mu\text{g/kg}$ ) detected in soil samples from that boring.

Soil samples collected at 5 foot intervals from 5 feet to 25 feet below grade.

TCE means Trichloroethene

PCE means Tetrachloroethene

ND means Not Detected (detection limits for each compound given in Table 1).



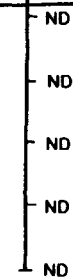
DRIVEWAY



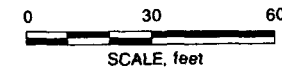
MW-3

B-10

B-11



DIRT LOT



VERTICAL DIRECTION NOT TO SCALE

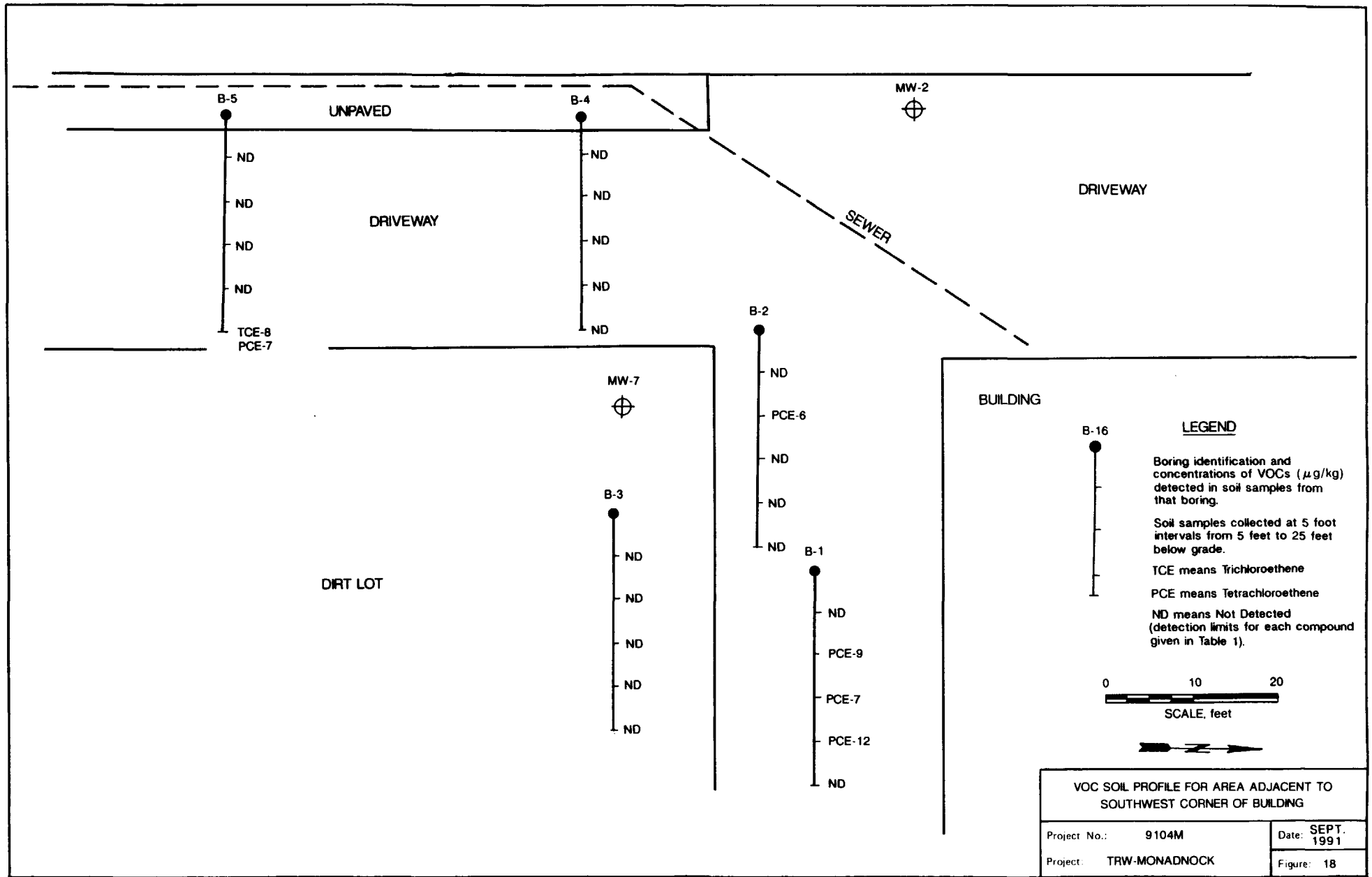
VOC SOIL PROFILE FOR AREA ADJACENT TO SEWER LINE AND MONITORING WELL MW-3

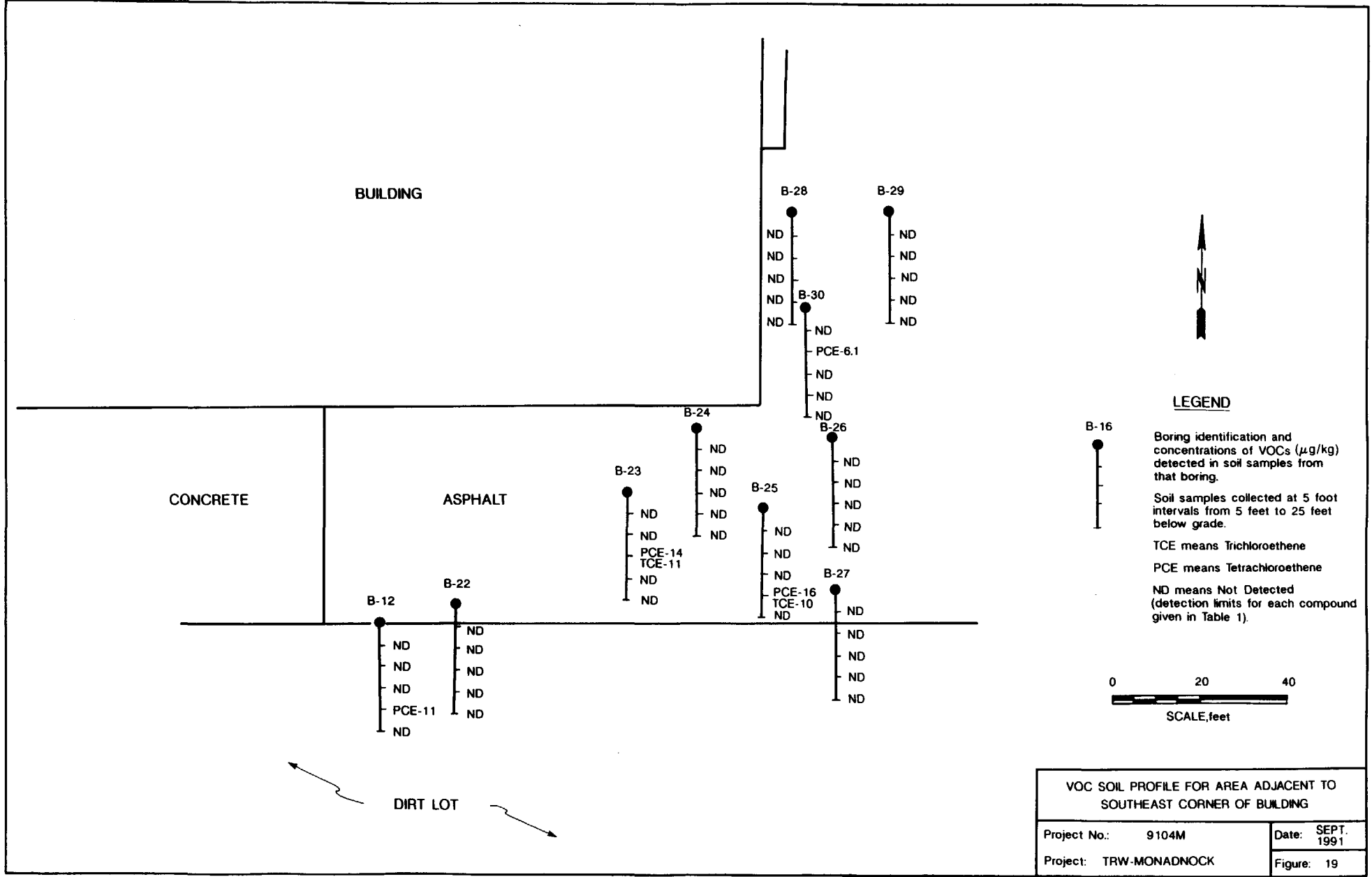
Project No.: 9104M

Project: TRW-MONADNOCK

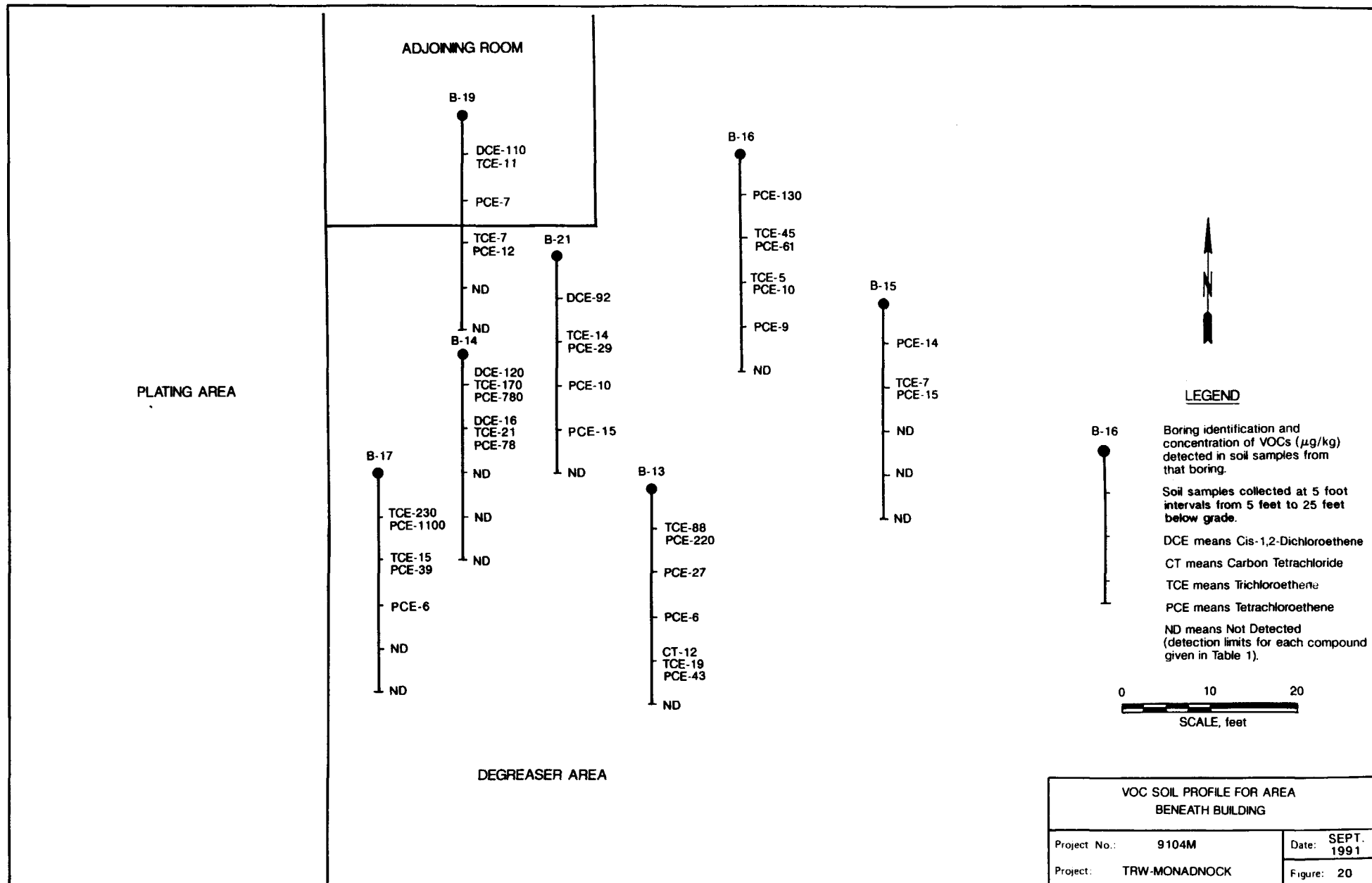
Date: SEPT. 1991

Figure: 17









BUILDING

CLARIFIER/WASTEWATER  
TREATMENT AREA

# LEGEND

B-16

Boring identification and concentrations of inorganic compounds (mg/kg) detected in soil samples from that boring.

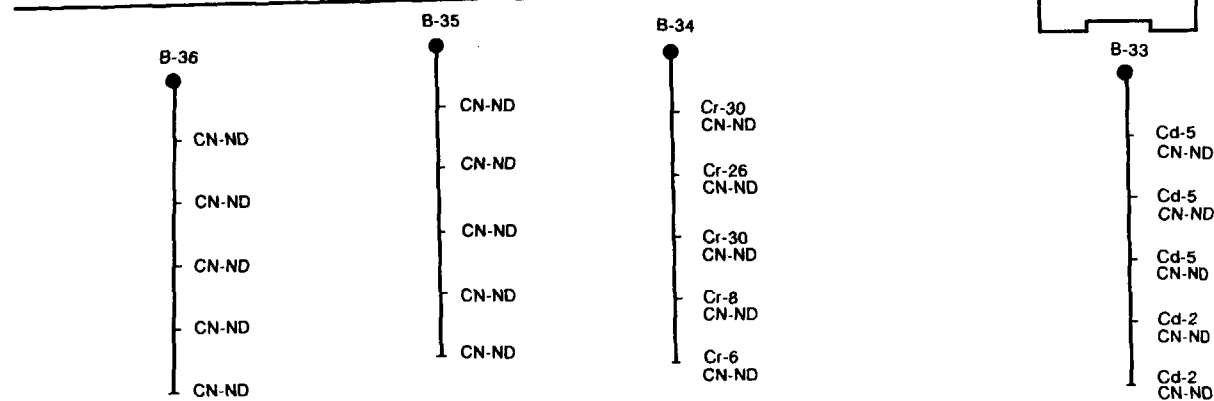
Soil samples collected at 5-foot intervals from 5 feet to 25 feet below grade.

CN means Cyanide

Cd means Cadmium

Cr means Chromium

ND means Not Detected (detection limits for each compound given in Table 1).



0 10 20  
SCALE, feet

INORGANIC COMPOUND SOIL PROFILE FOR  
AREA ADJACENT TO WEST SIDE OF BUILDING

Project No.: 9104M  
Project: TRW-MONADNOCK

Date: SEPT. 1991  
Figure: 21

#### 4.1 VOC Contamination

Subsurface soils have been impacted by VOCs. Areas impacted by VOCs include the following:

- o **Sewer line and area adjacent to Monitoring Well MW-3** - Traces of PCE and TCE ( $7\text{ }\mu\text{g/kg}$  and  $8\text{ }\mu\text{g/kg}$ , respectively) were detected in Boring B-5, located adjacent to the sewer line (see Figure 17). The compounds were present in a soil sample collected at approximately 25 feet below grade.

The extent of PCE and TCE in the subsurface soils around Boring B-5 does not appear to be extensive. These compounds were not detected in soil samples collected from other depths within Boring B-5, nor were they detected in soil samples from Borings B-4 and B-6 (located approximately 40 and 80 feet, respectively from Boring B-5).

PCE and TCE were detected in subsurface soils within about five feet of underlying ground water. Thus, a significant possibility exists that these compounds may have impacted ground water in the area of Boring B-5.

VOCs were not detected in soil samples collected from other areas along the sewer line or adjacent to Monitoring Well MW-3. Thus, it does not appear that these areas have been impacted by VOCs.

- o **Southwest corner of building and alleged former swamp area** - VOCs were not detected in soil samples collected from borings drilled near the southwest corner of the building or the alleged former swamp area (see Figure 18). Thus, it does not appear that these areas have been impacted by VOCs.
- o **Southeast corner of building and bermed area along east wall of building** - PCE and TCE were detected in soil samples collected from Borings B-23, B-25, and B-30, drilled near the southeast corner of the building (see Figure 19). The concentrations of these compounds ranged from  $6.1\text{ }\mu\text{g/kg}$  to  $16\text{ }\mu\text{g/kg}$ .

The compounds are present in an area approximately 25 feet south of the southeast corner of the building. Their lateral extent appears to be somewhat confined, in that PCE and TCE were not detected in soil samples collected from borings 20 feet north (Boring B-24) or 15 feet east (Borings B-26 and B-27) of the impacted area.

The highest concentrations of these compounds were detected in soil samples collected from about 15 to 20 feet below grade. Thus, the possibility exists that these compounds may have impacted ground water in the area adjacent to the southeast corner of the building.

- o **Degreaser area inside building** - Cis-1,2-dichloroethene (DCE), PCE, and TCE were detected in soil samples collected from several borings drilled in the degreaser area (see Figure 20). DCE and TCE were detected at concentrations of up to hundreds of parts per billion; PCE was detected at concentrations of up to 1,100 parts per billion. The compounds were detected in soil samples collected from about 5 feet below the floor of the building (same level as ground surface) to 20 feet below the floor of the building (15 feet below the ground surface), with concentrations generally decreasing with depth. VOCs were not detected in soil samples collected from 25 feet below the building floor in any of the seven borings drilled in the degreaser area. Thus, it appears that VOC contaminants found in the subsurface soils beneath the degreaser area may be confined to depths of 15 feet or less. Consequently, these contaminants do not appear to have impacted ground water beneath the degreaser area.

Laterally, the compounds are present in subsurface soils throughout the degreaser area. Additionally, they extend into the manufacturing area to the east and the adjoining room to the north.

- o **Pavement line south of building** - PCE at a concentration of 11  $\mu\text{g/kg}$  was detected in a soil sample from Boring B-12, located along the asphalt/dirt interface south of the building. The soil sample had been collected at an approximate depth of 20 feet below grade. VOCs were not detected in soil samples collected from Boring B-22, located about 15 feet east of Boring B-12.
- o **Bermed area along east wall of building** - VOCs were not detected in soil samples collected from Borings B-31 and B-32, located at the southeast edge of the bermed area.

Based on the results of the Phase 2B investigation, soil gas migration does appear to be occurring at the site. Analysis of soil gas data collected during the Phase 2B investigation indicates that decreasing concentrations of PCE, TCE, and TCA exist in soil gas, moving from the degreaser area toward the heat treatment room. In addition, though soil gas adjacent to the sump in the heat treatment room contained PCE, TCE, and TCA, these compounds were not detected in soil samples collected from the area (Borings B-18 and B-20).

Similarly, analysis of soil gas data collected during the Phase 2B investigation indicates that decreasing concentrations of PCE, TCE, and TCA exist, moving from the alleged former swamp area and the sewer line toward the clarifier. Additionally, soil samples collected from Boring B-2, located between the alleged former swamp area and the clarifier, did not contain detectable concentrations of PCE, TCE, and TCA.

#### **4.2 Cyanide, Cadmium, and Chromium Contamination**

Cyanide, cadmium, and chromium had been detected in near-surface soil samples collected during the Phase 2A investigation. These samples had been collected adjacent to the clarifier, along the west dock area, and in the heat treatment room.

It appears that the vertical extent of these compounds in subsurface soils is limited to the near-surface. Soil samples collected from borings drilled during the Phase 2B investigation (Borings B-18, B-20, and B-33 through B-36) did not contain detectable concentrations of cyanide. Soil samples collected from Boring B-33 contained cadmium at concentrations ranging from 2.0 to 5.0 milligrams of contaminant per kilogram of soil (mg/kg). Soil samples collected from Boring B-34 contained chromium at concentrations ranging from 6.0 to 30 mg/kg. These concentrations of cadmium and chromium are considered typical background levels for soils.

#### **4.3 Petroleum-Related Compound Contamination Adjacent to Bermed Area Along East Wall of Building**

Petroleum-related compounds were not detected in soil samples collected from Borings B-31 and B-32, located at the southeast edge of the bermed area.

### **5.0 RECOMMENDATIONS**

Soil remediation to reduce concentrations of VOCs in subsurface soils may be required at the Monadnock Company site. To establish whether soil remediation may be required or not, it is necessary to assess whether underlying ground water has been impacted by VOCs migrating through the soil.

Potential impacts to ground water from VOCs are indicated by the analytical data generated during the Phase 2B investigation. Specifically, ground water may have been impacted in the following areas of the Monadnock Company site:

- o northern portion of sewer line
- o southeast corner of building

To evaluate if ground water has been impacted in these areas, IDEA recommends that a ground water investigation program, consisting of (1) the installation of ground water observation wells and (2) ground water sampling and analysis using the existing and proposed wells. Prior to initiation of the ground water investigation program, a work plan will be submitted to the RWQCB outlining the locations and rationale for any proposed wells, well installation procedures, and ground water sampling and analysis protocols.

If ground water has been impacted by VOCs within a certain area, soil cleanup levels will need to be negotiated with the RWQCB. If, based on the results of the ground water investigation program, ground water impacts are not indicated for an area, no soil remediation should be required.

**APPENDIX A**  
**SOIL GAS SURVEY PROTOCOLS**

## **APPENDIX A**

### **PROTOCOLS FOR SOIL GAS SURVEY**

#### **SOIL GAS SURVEY**

A soil gas survey was conducted to investigate the potential presence of selected volatile organic compounds (VOCs) in the shallow subsurface. Information collected during the soil gas survey was used in the selection of locations for soil borings and may be used in the selection of locations for future soil borings and/or groundwater monitoring wells.

#### **Field Procedures**

Sixty-six soil probes, consisting of 1/2-inch-diameter, partially perforated galvanized pipe, were installed during the Phase 2B investigation. The probes were installed by coring small holes, where appropriate, through the asphalt or concrete and driving them to depths of approximately 4 to 8 feet with the aid of a pneumatic fence post driver. Soil gas samples were collected from individual probes using an oil-less vacuum system. Samples were withdrawn with a glass-barreled syringe through a membrane (septum) in the gas sampling line and were injected directly into a GC for analysis.

Soil gas samples were analyzed using a field operable gas chromatograph equipped with both a flame ionization detector (FID) and an electron capture detector (ECD). The binary detector approach allowed each of the compounds included under EPA Methods 601 and 602 to be detected and tentatively identified. Results were then semi-quantified based on response factors from compounds used in the calibration standard. In general, the FID is the preferred detector for non-halogenated organic compounds, while the ECD is generally more sensitive to the halogenated species. Accordingly, the FID allowed detection limits down to concentrations of approximately 100 ppb for the following specifically-identified compounds: benzene, toluene, and xylene (BTX). The ECD allowed detection limits of approximately 5 ppb for TCA, TCE, and PCE. Samples were generally collected three minutes after applying the vacuum system to the probe, and were analyzed simultaneously on both detectors.

#### **Soil Gas Survey Limitations**

Under some circumstances, it is not possible to separate and identify certain mixtures of compounds with gas chromatography. This is generally not a problem, as the main objective of soil gas surveying is to identify areas of relatively higher or lower VOC concentrations. However, some uncertainty does exist and it is possible that a tentatively identified compound may be misinterpreted as another compound similar in nature. This problem is most common with the highly volatile (light) organic compounds, such as methylene chloride, which is chromatographically similar to 1,1-dichloroethene (1,1-DCE); 1,1-dichloroethane (1,1-DCA); trans-1,2-dichloroethylene (trans-1,2-DCE); cis-1,2-dichloroethylene (cis-1,2-DCE); and Freon (several isomers), among others.



Comparisons of the results from soil gas sampling are based on the assumption that the subsurface materials are relatively homogenous and permeable. It is recognized, however, that cut and fill work associated with foundation preparation may produce pockets of either higher or lower permeabilities in the shallow subsurface.

#### **Quality Assurance/Quality Control**

Ambient air and/or nitrogen gas blanks were run prior to sampling each probe. Calibration curves were derived using standards of at least three different concentrations (accomplished by varying volume). Approximately five to ten percent of all sample injections were duplicated, and only readings within 50 percent of each other were considered satisfactory (the higher reading is reported). Since concentrations varied over several orders of magnitude, this level of reproducibility was considered acceptable.

#### **SOIL GAS PROBE AND CONSTRUCTION INSTALLATION PROCEDURES**

The probes were cleaned with hot, soapy, pressurized water and thoroughly rinsed before arrival at the site. At the site, probes from each lot were connected to the sampling system and checked for contamination using the GC. None of sampled probes showed concentrations of detectable compounds.

The probes consisted of 1/2-inch-diameter galvanized pipe, perforated near the tip. A galvanized sampling head was attached with Teflon-taped threads. Probes were installed to the required depth using a fence post driver.

#### **SOIL GAS SAMPLING PROCEDURES**

The sampling system consisted of an oil-less vacuum pump connected up-flow from the vacuum gage, the flow meter, the flow control valve, and the sampling bulb. Sampling was accomplished by extracting samples through a septum on the pipe head.

The perforated area of the probe is usually sufficient to allow the unimpeded collection of samples at the applied flow rates. Since the integrated area of the openings is approximately 1 inch square, it would not appear to be significantly less in area than that of other probe designs, including those which utilize partial withdrawal of the sampling tip.

After probe installation, the soil gas sampling system was connected, the pump turned on, and all joints checked for possible leakage. In addition, the joints of the sampling system were checked for leakage at the beginning and end of each sampling day. The flow rate was adjusted to approximately one liter per minute, and the vacuum gage reading was noted for indications of relatively high vacuum conditions which may result from placement into an impermeable clay or saturated zone. After removing at least two probe volumes of air, sampling was begun.

### A-3

After performing background and residual contamination checks, 0.1 ml soil gas samples were collected with a glass-barreled syringe through the septum on the sampling line and analyzed on site by injection directly into the GC. The effects of partial adsorption onto the walls of the glass barreled syringe are unknown. However, from previous experience, neither Woodward-Clyde (Tom Zdeb) nor West Coast Analytical Services (Craig Hechanora, Gas Chromatography Section Head) has ever noted an observable adsorption effect during routine injections with such syringes using a wide variety of gases in diverse matrixes. Since repeatability for routine GC injection is at best  $\pm 5$  percent, these effects could be quantified as probability less than  $\pm 5$  percent.

### **ANALYTICAL SYSTEM**

The sample is injected with a syringe through a membrane (a septum) into the GC. Thereafter the gas is separated into its various components as it proceeds down a tubular column which separates the mixture by allowing high boiling point (low volatility) compounds to elute later because they travel down the column at a slower rate. As these peaks elute off the column, they are sensed by a detector which electronically records the compound as a peak. The size of the peak corresponds to the amount of the compound. Peak areas were integrated using electronic integrators.

**Gas Chromatograph Column Development:** Several combinations of chromatographic column material, column lengths, and column temperatures were tested to optimize separation of the sample gas within reasonable time limits. After some testing, the analytical column chosen for use in these studies was a 2.6-meter-long SP 1000 column filled with Supelcoport 100-120 mesh (Supelco, Inc.). Optimal column temperature was  $110^{\circ}\text{C}$ .

**Detector Sensitivity/Detection Limits:** Sensitivity of the detectors for the compounds of interest in this study (TCA, TCE, PCE, and BTX) allowed distinguishable, separate peaks at concentrations greater than 5 ppb (gas phase volume/volume) for the ECD and greater than 100 ppb for the FID.

### **Calculation of Detection Limits**

Detection limits were empirically determined using a nondiluted certified gas-phase standard consisting of 10 ppm (volume/volume) each of TCE, TCA, PCE, and BTX. This standard was injected into the GC in amounts that varied between 1 microliter ( $\mu\text{l}$ ) to 1 ml. The purpose was to monitor the response of the GC to the injection of a known amount (volume times concentration) of a given compound.

The response of the GC to various amounts of a given compound allowed a graph to be constructed which correlates the response of the GC to the amount of the compound. (Note that the amount of the compound injected in this example was varied by adjusting the volume, not the concentration). The scales of the graph are logarithmic to allow a range of both the GC response units and the injected volumes to be plotted.

#### A-4

After the graph was constructed, the GC response units of an unknown amount of a given compound (identified chromatographically) were compared to the "curve" to allow the amount of the unknown to be quantified. For example, if 1,000 GC response units were recorded from a 100 ml injection of an unknown, then according to the graph this would correspond to 0.01 ml of the standard. This 100 ml injection of the unknown (the amount routinely injected during the soil gas survey) was correlated to 0.01 ml of the 10 ppm standard, and the concentration of unknown was calculated as follows:

From the volume/concentration relationship

$$(V_1)(C_1) = (V_2)(C_2)$$

where:

$V_1$  = Volume of Standard

$C_1$  = Concentration of Standard

$V_2$  = Volume of Unknown

$C_2$  = Concentration of Unknown

Therefore:

$$(0.01 \text{ ml})(10 \text{ ppm}) = (100 \text{ ml})(C_2)$$

$$C_2 = 1 \text{ ppm (volume/volume).}$$

By comparison with the known standard, the unknown concentration equals 1 ppm.

Continuing with this reasoning, a 100 ml injection of an unknown which resulted in 10 GC response units would be equivalent to 0.01 ppm. This amount would be the lower detection limit (0.08 ppm) declared based on a 100 ml routine injection volume for the unknown. No extrapolation of the standard curve beyond the lowest point empirically determined was required to achieve this limit. In practice at least one standard is usually prepared from a dilution of the primary standard to allow the lower end of the calibration curve to be extended without using any extrapolation.

**APPENDIX B**

**DRILLING AND SOIL SAMPLING PROTOCOLS**

## **APPENDIX B**

### **DRILLING AND SOIL SAMPLING PROTOCOLS**

#### **HAND-AUGERED BORINGS**

Soil sampling consisted of hand-augering a hole to a depth of approximately 0.5 feet at each sampling location. Soil samples were collected using a modified split spoon sampler containing three brass tubes. The sampler was placed in the hand-augered hole and driven to the desired depth using a hammer.

After sample collection, the brass tubes were extruded from the sampler. The contents of one tube was extruded into a glass jar, and a headspace organic vapor analyzer (OVA) reading was taken and recorded on the boring log. A second brass tube was sealed with aluminum foil and PVC end caps for shipment to the analytical laboratory. To identify each tube, sample labels were used; each label contained the project name, sample identification, sample number, date, and sampler's signature.

The sample tubes were stored in a portable ice chest and cooled with ice. Samples were delivered to CKY Analytical Laboratories within 24 hours of collection. Chain-of-custody procedures, including the use of sample identification labels and chain-of-custody forms, were used for tracking the collection and shipment of the samples.

Sample equipment was cleaned between sample locations using the following general procedures:

- o Water rinse, brush assisted if necessary, to remove dirt and mud
- o Water wash with detergent (TSP)
- o Rinse with deionized water to remove detergent
- o Dry with a towel

#### **DEEPER BORINGS**

Borings were drilled with a 6-inch diameter, hollow-stem, continuous-flight auger. Soil samples were collected for stratigraphic information, laboratory analyses, and headspace analysis for VOCs. Sampling was performed using a 2-inch diameter modified split spoon sampler containing three brass tubes. At each sampling depth, the sampler was driven into the undisturbed soil below the lead auger by dropping a 140-pound hammer approximately 30 inches.

## B-2

The brass tubes from each sampling interval were extruded from the sampler. The contents of one tube was extruded into a glass jar, and a headspace organic vapor analyzer (OVA) reading was taken and recorded on the boring log. A second brass tube was sealed with aluminum foil and PVC end caps for shipment to the analytical laboratory. To identify each tube, sample labels were used; each label contained the project name, sample identification, sample number, date, and sampler's signature.

The sample tubes were stored in a portable ice chest and cooled with ice. Samples were delivered to CKY Analytical Laboratories within 24 hours of collection. Chain-of-custody procedures, including the use of sample identification labels and chain-of-custody forms, were used for tracking the collection and shipment of the samples.

Sample equipment was cleaned between sample locations using the following general procedures:

- o Water rinse, brush assisted if necessary, to remove dirt and mud
- o Water wash with detergent (TSP)
- o Rinse with deionized water to remove detergent
- o Dry with a towel

Drill augers were steam-cleaned either at the driller's facility or at the Monadnock Company site.

**APPENDIX C**  
**BORING LOGS**

DATE DRILLED/COMPLETED: 7-15-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)				
							Head-Space	Back-Ground			
	Asphalt - 3 inches thick.										
	Dark brown, damp, medium stiff CLAY.										
5		CL		X	8	<1				No Odor	
10				X	7	<1				No Odor	
15	Dark, brown, moist, stiff, clayey SILT.	ML		X	15	<1				No Odor	
20	Grey, moist, medium dense, fine SAND.	SP		X	29	<1				No Odor	
25	Grey, moist, dense, coarse, sandy GRAVEL.	GW		X	35	<1				No Odor	
	BOTTOM OF BORING AT 26 FEET.										
30											
35											

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B1

Fig.



DATE DRILLED/COMPLETED: 7-15-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)			
										Head-Space
5	Asphalt - 3 inches thick.									
5	Dark brown, damp, medium stiff CLAY.	CL		9	X	<1			No Odor	
10	Dark brown, damp, loose, clayey SAND.	SC		7	X	<1			No Odor	
15	Grey, damp, medium dense, fine to coarse SAND.	SW		34	X	<1			No Odor	
20				44	X	<1			No Odor	
25	Grey, moist, very dense, coarse sandy GRAVEL.	GW		67	X	<1			No Odor	
30										
35	BOTTOM OF BORING AT 26 FEET.									

Project: **MONADNOCK**  
Project No.: **031-02**

## LOG OF BORING B2

Fig.

DATE DRILLED/COMPLETED: 7-15-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)			
							Head-Space			Back-Ground
	Asphalt - 3 inches thick.									
5	Dark brown, damp, stiff CLAY.	CL		X	12	<1			No Odor	
10	Dark brown, damp, medium stiff, clayey SILT.	ML		X	6	<1			No Odor	
15	Grey, damp, medium dense, fine to coarse SAND.	SW		X	42	<1			No Odor	
20	Grey, moist, dense, coarse, sandy GRAVEL.	GW		X	59	<1			No Odor	
25				X	34	<1			No Odor	
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B3

Fig

DATE DRILLED/COMPLETED: 7-15-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)			
										Head-Space
0	Dark brown, damp, medium stiff, clayey SILT.	ML		7	X	7	< 1		No Odor	
5				7	X	7	< 1		No Odor	
10				25	X	25	< 1		No Odor	
15	Grey, damp, medium dense, fine SAND.	SP		50	X	50	< 1		No Odor	
20				69	X	69	< 1		No Odor	
25	Grey, moist, very dense, coarse sandy GRAVEL.	GW								
30	BOTTOM OF BORING AT 26 FEET.									
35										

DATE DRILLED/COMPLETED: 7-15-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)				
							Head-Space	Back-Ground			
5	Dark brown, damp, medium stiff SILT.	ML		8	<1			No Odor			
10		Dark brown, damp, medium stiff, silty CLAY.	CL		5	<1		No Odor			
15			Grey, damp, medium dense, medium grained SAND.	SP		22	<1		No Odor		
20				Grey, moist, dense, coarse, sandy GRAVEL.							
25					GW						
	Brown, damp, medium dense, clayey SAND.	SC		16	<1			No Odor			
BOTTOM OF BORING AT 26 FEET.											

BOTTOM OF BORING AT 26 FEET.

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B5

Fig.



DATE DRILLED/COMPLETED: 7-16-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head-Space			Back-Ground
5	Dark brown, damp, medium stiff, silty CLAY.	CL		X	14	<1		No Odor		
10	Light brown, moist, medium dense, fine SAND.	SP		X	27	<1		No Odor		
15	Grey, damp, dense, fine to coarse SAND.	SW		X	22	<1		No Odor		
20	Grey, moist, very dense, coarse sandy GRAVEL.	GW		X	49	<1		No Odor		
25				X	70	<1		No Odor		
BOTTOM OF BORING AT 26 FEET.										
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B7

Fig.

DATE DRILLED/COMPLETED: 7-16-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH(feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG		SAMPLES				Drilling Rate(Time)	REMARKS
			No.	Type	Blow Count	O.V.A. (ppm)				
						Head-Space	Back-Ground			
Dark brown, damp, medium stiff, clayey SILT.		ML			6	X	<1			No Odor
Light brown, damp, dense, fine to coarse					40	X	<1			No Odor
		SW			47	X	<1			No Odor
Grey, damp, medium dense, silty SAND.					24	X	<1			No Odor
		SM								
		SC			50	X	<1			No Odor
BOTTOM OF BORING AT 26 FEET.										

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B8

Fig.

DATE DRILLED/COMPLETED: 7-16-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION : NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head-Space			Back-Ground
	Asphalt - 3 inches thick.									
	Grey, damp, medium dense, silty SAND.	SM								
5	Light brown, damp, medium dense, fine to coarse SAND.			X	17	<1			No Odor	
		SW								
10				X	35	<1			No Odor	
15	Grey, moist, dense, coarse, sandy GRAVEL.			X	53	<1			No Odor	
		GW								
20				X	37	<1			No Odor	
25	Brown, damp, stiff, silty CLAY.	CL		X	18	<1			No Odor	
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B9

Fig



DATE DRILLED/COMPLETED: 7-16-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)				
							Head-Space	Back-Ground			
5	Grey, damp, dense, fine to coarse SAND.	SM		10	< 1			No Odor			
10			14	< 1			No Odor				
15		Grey, moist, dense, coarse, sandy GRAVEL.	SW		47	< 1			No Odor		
20			50	< 1			No Odor				
25	GW			48	< 1			No Odor			
BOTTOM OF BORING AT 26 FEET.											
30											
35											

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B10

Fig.

DATE DRILLED/COMPLETED: 7-16-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)				
							Head-Space	Back-Ground			
5	Dark brown, dry, stiff, sandy SILT.	ML		⊗	10	<1			No Odor		
10				⊗	14	<1			No Odor		
15	Light brown, damp, dense, fine to coarse SAND with some GRAVEL.		SW		⊗	22	<1			No Odor	
20				⊗	50	<1			No Odor		
25				⊗	67	<1			No Odor		
	BOTTOM OF BORING AT 26 FEET.										
30											
35											

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B11

Fig.

DATE DRILLED/COMPLETED: 7-16-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION : NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate(Time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head- Space			Back- Ground
	Dark brown, damp, stiff, silty CLAY.									
5		CL			X		<1			No Odor
10					X		<1			No Odor
15	Brown, damp, dense, fine to coarse SAND with some gravel.				X		<1			No Odor
20		SW			X		<1			No Odor
25					X		<1			No Odor
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B12

Fig.

DATE DRILLED/COMPLETED: 7-17-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					REMARKS
				No.	Type	Blow Count	O.V.A. (ppm)		Drilling Rate (Time)
							Head-Space	Back-Ground	
Concrete - 5 inches thick.									
Dark brown, damp, stiff, silty CLAY.		CL		26	X	<1			Slight Odor
				18	X	<1			No Odor
Light brown, damp, stiff, clayey SILT.		ML		16	X	<1			No Odor
Grey, damp, dense, silty SAND with gravel.		SM		60	X	<1			No Odor
Grey, moist, dense, coarse SAND with gravel.		SW		50/2"	X	<1			No Odor
BOTTOM OF BORING AT 26 FEET.									

Project: **MONADNOCK**  
Project No.: **031-02**

## LOG OF BORING B13

Fig.

DATE DRILLED/COMPLETED: 7-17-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head-Space			Back-Ground
	Concrete - 5 inches thick.									
	Dark brown, damp, stiff clayey SILT.									
5		CL		X	12	<1			No Odor	
10				X	18	<1			No Odor	
15	Light brown, damp, stiff, clayey SILT.	ML		X		<1			No Odor	
20	Light brown, damp, dense, silty SAND with gravel.	SM		X	94	<1			No Odor	
25	Grey, damp, dense, coarse SAND with gravel.	SW		X	36	<1			No Odor	
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B14

Fig.

DATE DRILLED/COMPLETED: 7-17-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (time)	REMARKS
				No.	Type	Blow Count	O.V.A. (ppm) Head-Space Back-Ground		
	Concrete - 5 inches thick.								
	Dark brown, damp, stiff, silty CLAY.								
5		ML			X	16	<1		No Odor
10					X	22	<1		No Odor
15					X	14	<1		No Odor
20	Grey, damp, dense, silty SAND.	SM			X	80	<1		No Odor
25	Grey, moist, dense, fine to coarse SAND with gravel.	SW			X	90	<1		No Odor
	BOTTOM OF BORING AT 26 FEET.								
30									
35									

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B15

Fig

DATE DRILLED/COMPLETED: 7-18-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head-Space			Back-Ground
	Concrete - 5 inches thick.									
	Dark brown, damp, stiff, silty CLAY.									
5		CL		X	20	<1				No Odor
10				X	20	<1				No Odor
15	Grey, damp, medium dense, silty SAND.			X	10	<1				No Odor
20		SM		X	44	<1				No Odor
25	Grey, moist, very dense, fine to coarse SAND.	SW		X	60	<1				No Odor
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B16

Fig.

DATE DRILLED/COMPLETED: 7-18-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate(Time)	REMARKS		
				No.	Type	Blow Count	O. V. A. (ppm)				
							Head- Space			Back- Ground	
	Concrete - 5 inches thick.										
	Dark brown, damp, stiff, silty CLAY.										
5		CL			X		<1			No Odor	
10					X		<1			No Odor	
15	Grey, damp, medium dense, silty fine SAND.	SM			X		<1			No Odor	
20	Light brown, damp, dense, fine to coarse sandy GRAVEL.	GW			X		<1			No Odor	
25					X		<1			No Odor	
	BOTTOM OF BORING AT 26 FEET.										
30											
35											

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B17

Fig.



DATE DRILLED/COMPLETED: 7-18-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS		
				No.	Type	Blow Count	O. V. A. (ppm)				
							Head-Space			Back-Ground	
	Concrete - 5 inches thick.										
	Dark brown, damp, medium stiff, silty CLAY.										
5		CL		X	6	<1				No Odor	
10				X	16	<1				No Odor	
15				X	14	<1				No Odor	
20	Light brown, moist, dense, fine SAND.	SP		X	100	<1				No Odor	
25				X	50/4"	<1				No Odor	
	BOTTOM OF BORING AT 26 FEET.										
30											
35											

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B18

Fig.

DATE DRILLED/COMPLETED: 7-19-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head-Space			Back-Ground
	Concrete - 5 inches thick.									
	Dark brown, damp, stiff, silty CLAY.									
5		CL		X	14	<1			No Odor	
10				X	14	<1			No Odor	
15				X	14	<1			No Odor	
20	Brown, damp, stiff, clayey SILT.	ML		X	22	<1			No Odor	
25	Brown, moist, dense, fine to coarse SAND.	SW		X	32	<1			No Odor	
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B19

Fig.

DATE DRILLED/COMPLETED: 7-18-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					REMARKS
				No.	Type	Blow Count	O.V.A. (ppm)		Drilling Rate (Time)
							Head-Space	Back-Ground	
Concrete - 5 inches thick.									
Dark brown, damp, stiff, silty CLAY.		CL		14	X	14	<1		No Odor
				14	X	14	<1		No Odor
Light brown, damp, stiff, clayey SILT.		ML		8	X	8	<1		No Odor
Brown, moist, dense, fine to coarse SAND with some gravel.		SW		62	X	62	<1		No Odor
				72	X	72	<1		No Odor
BOTTOM OF BORING AT 26 FEET.									

Project: **MONADNOCK**  
Project No.: 031-02

## LOG OF BORING B20

Fig.

DATE DRILLED/COMPLETED : 7-19-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: REX (SIMCO 2400)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION : NA	WELL SCREEN DEPTH : NA

DEPTH(feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate(Time)	REMARKS				
				No.	Type	Blow Count	O.V.A. (ppm)							
							Head-Space	Back-Ground						
5	Concrete - 5 inches thick  Dark brown, damp, stiff, silty CLAY.	CL									No Odor			
10												No Odor		
15													No Odor	
20			Brown, moist, dense, fine to coarse SAND with some gravel.											No Odor
25				SW										
30											No Odor			
35	BOTTOM OF BORING AT 26 FEET.													

Project: **MONADNOCK**  
Project No.: **031-02**

# LOG OF BORING B21

Fig

DATE DRILLED/COMPLETED: 7-22-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS
				No.	Type	Blow Count	O.V.A. (ppm) Head-Space Back-Ground		
0	Asphalt - 3 inches thick.								
0	Dark brown, damp, stiff, silty CLAY.								
5		CL			X		<1		No Odor
10					X		<1		No Odor
15	Brown, damp, dense, fine to coarse SAND with gravel.				X		<1		No Odor
20		SW			X		<1		No Odor
25					X		<1		No Odor
26	BOTTOM OF BORING AT 26 FEET.								
30									
35									

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B22

Fig.

DATE DRILLED/COMPLETED: 7-22-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRIER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)				
							Head-Space	Back-Ground			
	Asphalt - 3 inches thick.										
	Dark brown, damp, stiff, silty CLAY.	CL		20		< 1				No Odor	
	Grey, damp, very dense, clayey SAND.	SC		65		< 1				No Odor	
	Brown, moist, dense, fine SAND.	SP		17		< 1				No Odor	

Project: **MONADNOCK**  
Project No.: 031-02

## LOG OF BORING B23

Fig.

DATE DRILLED/COMPLETED: 7-22-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS			
				No.	Type	Blow Count	O.V.A. (ppm)					
							Head-Space			Back-Ground		
	Asphalt - 3 inches thick. Dark brown, damp, stiff, silty CLAY.	CL										
5					X			<1		No Odor		
10	Light brown, damp, dense, clayey SAND.	SC			X			<1		No Odor		
15						X			<1		No Odor	
20	Light brown, damp, dense, fine to coarse SAND with some gravel.	SM				X			<1		No Odor	
25							X			<1		No Odor
	BOTTOM OF BORING AT 26 FEET.											
30												
35												

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B24

Fig.

DATE DRILLED/COMPLETED : 7-22-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER : B. NYDOSKE (CME 75)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION : NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS		
				No.	Type	Blow Count	O.V.A. (ppm)					
							Head-Space	Back-Ground				
5	Brown, damp, stiff, clayey SILT.	ML								No Odor		
10											No Odor	
15												No Odor
20												
25		SW							No Odor			
30										No Odor		
35											No Odor	
												No Odor

Project: **MONADNOCK**  
Project No.: **031-02**

# LOG OF BORING B25

Fig



DATE DRILLED/COMPLETED: 7-22-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)				
							Head-Space	Back-Ground			
	Asphalt - 3 inches thick. Brown, damp, stiff, clayey SILT.										
5		ML			X	4	<1				No Odor
10					X	15	<1				No Odor
15	Brown, moist, loose, fine to coarse SAND.	SW			X	9	<1				No Odor
20	White, damp, dense, fine to coarse sandy GRAVEL.	GW			X	49	<1				No Odor
25					X	78	<1				No Odor
	BOTTOM OF BORING AT 26 FEET.										
30											
35											

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B26

Fig.

DATE DRILLED/COMPLETED: 7-22-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH(feet)		DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate(Time)	REMARKS
No.	Type				Blow Count	O.V.A. (ppm)				
						Head-Space	Back-Ground			
Asphalt — 3 inches thick.										
Brown, damp, stiff, clayey SILT.		ML								
5	Dark brown, damp, very stiff, silty CLAY.		⊗	10	<1				No Odor	
10		CL	⊗	16	<1				No Odor	
15	Brown, damp, dense, fine to coarse SAND with gravel.		⊗	15	<1				No Odor	
20		SW	⊗	45	<1				No Odor	
25	Light brown, moist, medium dense, fine SAND.	SP	⊗	27	<1				No Odor	
BOTTOM OF BORING AT 26 FEET.										
30										
35										

Project: MONADNOCK	LOG OF BORING B27	Fig
Project No.: 031-02		

Project: MONADNOCK  
Project No.: 031-02

# LOG OF BORING B27

Fig.

DATE DRILLED/COMPLETED: 7-23-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)			
							Head-Space			Back-Ground
	Asphalt - 3 inches thick.									
	Brown, damp, stiff, clayey SILT.									
5		ML		X	15	<1			No Odor	
10				X	9	<1			No Odor	
15	Brown, moist, loose, silty SAND.	SM		X	10	<1			No Odor	
20	Brown, moist, medium dense, clayey SAND with gravel.	SC		X	16	<1			No Odor	
25	Grey, moist, dense, coarse, sandy GRAVEL.	GW		X	84	<1			No Odor	
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B28

Fig.

DATE DRILLED/COMPLETED: 7-23-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS	
				No.	Type	Blow Count	O.V.A. (ppm)			
										Head-Space
5	Asphalt - 3 inches thick. Brown, damp, stiff, clayey SILT.	ML		8	<1			No Odor		
10	Brown, damp, medium dense, clayey, fine SAND.	SC		18	<1			No Odor		
15	Brown, moist, stiff clayey SILT.	ML		12	<1			No Odor		
20	Brown, moist, dense, silty fine SAND.			16	<1			No Odor		
25	Grey, moist, dense, coarse, sandy GRAVEL.	GW		49	<1			No Odor		
BOTTOM OF BORING AT 26 FEET.										

Project: **MONADNOCK**  
Project No.: **031-02**

## LOG OF BORING B29

Fig.

DATE DRILLED/COMPLETED: 7-23-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate (Time)	REMARKS
				No.	Type	Blow Count	O.V.A. (ppm) Head-Space Back-Ground		
5	Brown, damp, stiff, clayey SILT.  Asphalt - 3 inches thick.	ML		9	×		<1		No Odor
10				15	×		<1		No Odor
15				22	×		<1		No Odor
20				13	×		<1		No Odor
25	Brown, wet, dense, coarse, sandy GRAVEL.	GW		28	×		<1		No Odor
BOTTOM OF BORING AT 26 FEET.									
30									
35									

Project: MONADNOCK  
Project No.: 031-02

# LOG OF BORING B30

Fig.

DATE DRILLED/COMPLETED: 7-23-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES					Drilling Rate (Time)	REMARKS
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head-Space	Back-Ground		
	Asphalt - 3 inches thick. Dark brown, damp, stiff, silty CLAY.									
5		CL			X		<1			No Odor
10	Dark brown, damp, medium dense, clayey SAND.				X		<1			No Odor
15		SC			X		<1			No Odor
20	Brown, moist, medium dense, fine to coarse SAND.				X		<1			No Odor
		SW								
25	Brown, moist, dense, coarse sandy GRAVEL.				X		<1			No Odor
		GW								
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

**LOG OF BORING B33**

Fig.

DATE DRILLED/COMPLETED: 7-23-91	TOP OF CASING ELEVATION : NA
GEOLOGIST: J. REAMES	BORING DEPTH : 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH : NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH : NA

DEPTH(feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate(Time)	REMARKS
				No.	Type	Blow Count	O.V.A. (ppm) Head-Space Back-Ground		
	Asphalt - 3 inches thick.								
	Dark brown, damp, stiff, silty CLAY.								
5		CL			X	12	<1		No Odor
10					X	10	<1		No Odor
15					X	8	<1		No Odor
20	Light brown, damp, dense, fine SAND.	SP			X	39	<1		No Odor
25	Brown, moist, dense, coarse sandy GRAVEL.	GW			X	50/ 3"	<1		No Odor
	BOTTOM OF BORING AT 26 FEET.								
30									
35									

Project: MONADNOCK  
Project No.: 031-02

LOG OF BORING B34

Fig.

DATE DRILLED/COMPLETED: 7-23-91	TOP OF CASING ELEVATION: NA
GEOLOGIST: J. REAMES	BORING DEPTH: 26 FT. BGS
DRILLER: B. NYDOSKE (CME 75)	WATER DEPTH: NONE PENETRATED
SURFACE ELEVATION: NA	WELL SCREEN DEPTH: NA

DEPTH (feet)	DESCRIPTION	LITHOLOGIC LOG	WELL COMPLETION LOG	SAMPLES				Drilling Rate(Time)	REMARKS	
				No.	Type	Blow Count	O. V. A. (ppm)			
							Head- Space			Back- Ground
	Asphalt - 3 inches thick.									
	Dark brown, damp, stiff, silty CLAY.									
5		CL		X	8	<1				No Odor
10				X	11	<1				No Odor (Wood Fragments)
15	Light brown, damp, dense, fine to coarse SAND with some GRAVEL.			X	40	<1				No Odor
20		SW		X	44	<1				No Odor
25	Light brown, moist, dense, fine SAND.	SP		X	77	<1				No Odor
	BOTTOM OF BORING AT 26 FEET.									
30										
35										

Project: **MONADNOCK**  
Project No.: **031-02**

LOG OF BORING B35

Fig.



## **APPENDIX D**

### **CHAIN-OF-CUSTODY FORMS AND ANALYTICAL LABORATORY REPORTS**

(3)

910738

## CLIENT

NAME: IDEAADDRESS: 11325 GoldenrodFountain ValleyPHONE NO. 839-1744 FAX NO. \_\_\_\_\_PROJECT NAME: MonadnockSEND REPORT TO: Steve MulliganCHAIN OF CUSTODY RECORD  
REQUEST FOR ANALYSISDATE: 7/15/91PAGE 1 OF 3

CKY incorporated  
Analytical Laboratories  
630 Maple Ave.  
Torrance, Calif. 90503  
Tel: 213-618-8889  
Fax: 213-618-0818

SAMPLER NAME/SIGNATURE

John Reames

## TURN AROUND TIME

NORMAL ☐RUSH ☐

## ANALYSES REQUIRED

SAMPLE NUMBER	SAMPLING DATE/TIME	PRESER- VATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION			418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals
				WATER	SOIL	OTHER								
1. B1-5'	7/15/91	none	Glass tube		X				✓					
2. B1-10'									✓					
3. B1-15'									✓					
4. B1-20'									✓					
5. B1-25'									✓					
6. B2-5'									✓					
7. B2-10'									✓					
8. B2-15'									✓					
9. B2-20'									✓					
10. B2-25'									✓					
11. B3-5'									✓					
12. B3-10'									✓					
13. B3-15'									✓					
14. B3-20'									✓					

COMMENTS: Holder will notify of analyses

Relinquished by: (Signature)

Date: 7/15/91

Received by: (Signature)

Date: \_\_\_\_\_

Relinquished by: (Signature)

Date: \_\_\_\_\_

Received by: (Signature)

Date: 7/15

Company:

FREY

Time: \_\_\_\_\_

Company:

Time: \_\_\_\_\_

Company:

Time: \_\_\_\_\_

Company:


CKY

Time: 6:00

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.

(3)

910738

<b>CLIENT NAME:</b> <u>IDEA</u> <b>ADDRESS:</b> <u>11325 Goldenrod</u> <u>Fountain Valley, CA</u> <b>PHONE NO.</b> <u>835-1744</u> <b>FAX NO.</b> _____ <b>PROJECT NAME:</b> <u>Marina Park</u> <b>SEND REPORT TO:</b> <u>Steve Mulligan</u>				<b>CHAIN OF CUSTODY RECORD</b> <b>REQUEST FOR ANALYSIS</b> <b>DATE:</b> <u>7/15/91</u> <b>PAGE</b> <u>2</u> <b>OF</b> <u>3</u>				 <b>CKY incorporated</b> <b>Analytical Laboratories</b> 630 Maple Ave. Torrance, Calif. 90503 Tel: 213-618-8889 Fax: 213-618-0818															
<b>SAMPLER NAME/SIGNATURE</b> <u>John Kearnes</u>				<b>TURN AROUND TIME</b> NORMAL <input type="checkbox"/> RUSH <input type="checkbox"/>		<b>ANALYSES REQUIRED</b> <div style="display: flex; justify-content: space-between; padding: 0;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">418.1</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">M8015</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">8010/601</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">8020/602</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">8080/608</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">8240/624</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">8270/625</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CAM Metals</div> </div>																	
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE WATER	DESCRIPTION SOIL	OTHER																	
15 83-20G	7/15/91	none	single tube		X																		
16 83-25'																							
17 84-5'																							
18 84-10'																							
19 84-15'																							
20 84-20'																							
21 84-25'																							
22 85-5'																							
23 85-10'																							
24 85-15'																							
25 85-20'																							
26 85-25'																							
27 86-5'																							
28 86-10'																							
<b>COMMENTS:</b> <u>Hold, will notify of analysis</u>																							
Relinquished by: (Signature) <u>[Signature]</u>				Date: _____		Received by: (Signature) <u>[Signature]</u>				Date: _____		Relinquished by: (Signature) _____				Date: _____		Received by: (Signature) _____				Date: <u>7/15/91</u>	
Company: <u>FREEY</u>				Time: _____		Company: _____				Time: _____		Company: _____				Time: _____		Company: <u>CKY</u>				Time: <u>6pm</u>	

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.

910738

**Storage/Disposal of Samples:** Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



# CKY incorporated Analytical Laboratories

Date: 07/22/91  
910738

IDEA  
11325 Goldenrod  
Fountain Valley, CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

-----  
Enclosed is the laboratory report for samples received on 07/15/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

<u>Method</u>	<u>No. of Analysis</u>
EPA 8010	30 Soils

The results are summarized on seven pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

  
-----  
Dr. Kam Pang  
Laboratory Director

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910738  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/15/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/17/91

SAMPLE ID:	BLANK	B1-5'	B1-10'	B1-15'	B1-20'	B1-25'	DETEC.
CONTROL NO.: 910738		-1	-2	-3	-4	-5	LIMIT
PARAMETERS (8010)	RESULT (ug/kg)						(ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	9	7	12	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5

% Surrogate Recovery:	100	101	104	104	104	112
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EPA METHOD 8010  
VOLATILE ORGANICS BY GC

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910738  
MATRIX TYPE: Soil

DATE REC'D: 07/15/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/17/91

SAMPLE ID:	B2-5'	B2-10'	B2-15'	B2-20'	B2-25'	B3-5'	DETEC.
CONTROL NO.: 910738	-6	-7	-8	-9	-10	-11	LIMIT
PARAMETERS (8010)	RESULT (ug/kg)						(ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	6	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	104	102	104	106	106	105	



EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910738  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/15/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/17/91

SAMPLE ID: B3-10' B3-15' B3-20' B3-25' B4-5'  
CONTROL NO.: 910738 -12 -13 -14 -16 -17

PARAMETERS (8010)	RESULT (ug/kg)					DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	5
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	5

% Surrogate Recovery: 108 110 110 106 106

=====





EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910738  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/15/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/17/91

SAMPLE ID:	B4-10'	B4-15'	B4-20'	B4-25'	B5-5'	B5-10'	
CONTROL NO.: 910738	-18	-19	-20	-21	-22	-23	
PARAMETERS (8010)	RESULT (ug/kg)						DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	112	104	112	110	104	110	



EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910738  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/15/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/17/91

SAMPLE ID:	B5-15'	B5-20'	B5-25'	B6-5'	B6-10'	B6-25'	
CONTROL NO.: 910738	-23	-25	-26	-27	-28	-29	
PARAMETERS (8010)	RESULT (ug/kg)						DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	8	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	7	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5

% Surrogate Recovery:	108	108	106	108	106	102
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EPA METHOD 8010  
VOLATILE ORGANICS BY GC

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CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910738  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/15/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/17/91

SAMPLE ID:  
CONTROL NO.: 910738

B6-15'  
-30

B6-20'  
-31

PARAMETERS (8010)	RESULT (ug/kg)	DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	20
Chloromethane	ND	20
Vinyl Chloride	ND	20
Bromomethane	ND	20
Chloroethane	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Methylene Chloride	ND	5
Trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Bromodichloromethane	ND	5
2-Chloroethylvinylether	ND	5
Trans-1,3-Dichloropropene	ND	5
Cis-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
Dibromochloromethane	ND	5
Ethylene Dibromide	ND	5
Chlorobenzene	ND	5
Bromoform	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorotoluene	ND	5
M-Dichlorobenzene	ND	5
P-Dichlorobenzene	ND	5
Benzylchloride	ND	5
O-Dichlorobenzene	ND	5

% Surrogate Recovery:

110

105

=====

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910738

METHOD EPA 8010  
MATRIX: Soil

SAMPLE ID: 910738-4

COMPOUND	SAMPLE RESULTS (ug/kg)	AMOUNT SPIKED (ug/kg)	% REC.	DUP. % REC.	RPD
11-DCE	ND	50	84	88	5
Benzene	ND	50	111	109	2
TCE	ND	50	116	114	2
Toluene	ND	50	108	109	1
Chlorobenzene	ND	50	112	112	0

METHOD EPA 8010  
MATRIX: Soil

SAMPLE ID: 910738-30

COMPOUND	SAMPLE RESULTS (ug/kg)	AMOUNT SPIKED (ug/kg)	% REC.	DUP. % REC.	RPD
11-DCE	ND	50	86	80	7
Benzene	ND	50	108	105	3
TCE	ND	50	110	104	6
Toluene	ND	50	106	99	7
Chlorobenzene	ND	50	110	105	5

R4C

910745

CLIENT NAME: IDEA  
 ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
 PHONE NO. 839-1744 FAX NO. \_\_\_\_\_  
 PROJECT NAME: Monadnock  
 SEND REPORT TO: Steve Mulligan

# CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

DATE: 7/16/91  
 PAGE 1 OF \_\_\_\_\_



CKY incorporated  
 Analytical Laboratories  
 630 Maple Ave.  
 Torrance, Calif. 90503  
 Tel: 213-618-8889  
 Fax: 213-618-0818

SAMPLER NAME/SIGNATURE

John Reames

TURN AROUND TIME

NORMAL



RUSH



ANALYSES REQUIRED

SAMPLE NUMBER	SAMPLING DATE/TIME	PRESER- VATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION			ANALYSES REQUIRED									
				WATER	SOIL	OTHER										
1	B7-5'	7/16/91	none	brass tube		X										
2	B7-10'															
3	B7-15'															
4	B7-20'															
5	B7-25'															
6	B8-5'															
7	B8-10'															
8	B8-15'															
9	B8-20'															
10	B8-25'															
11	B8-20G															
12	B9-5'															
13	B9-10'															
14	B9-15'															

COMMENTS:

NOTE: All for 8010 analysis except  
for sample B8-20G

Relinquished by: (Signature)

Date:

Received by: (Signature)

Date:

Relinquished by: (Signature)

Date:

Received by: (Signature)

Date:

Company:

Time:

Company:

Time:

Company:

Time:

Company:

Time:

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.

R4C

910745

# CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

CLIENT NAME: IDEA  
 ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
 PHONE NO. 839-1744 FAX NO. \_\_\_\_\_  
 PROJECT NAME: Monsalrock  
 SEND REPORT TO: Steve Mulligan

DATE: 7/16/91  
 PAGE 2 OF 3



CKY incorporated  
 Analytical Laboratories  
 630 Maple Ave.  
 Torrance, Calif. 90503  
 Tel: 213-618-8889  
 Fax: 213-618-0818

SAMPLER NAME/SIGNATURE				TURN AROUND TIME			ANALYSES REQUIRED											
<u>John Reames</u> <u>John Reames</u>				NORMAL <input checked="" type="checkbox"/> RUSH <input type="checkbox"/>														
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION			418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals				
				WATER	SOIL	OTHER												
15	B9-20'	7/16/91	4200 brass tube		X													
16	B9-25'																	
17	B10-5'																	
18	B10-10'																	
19	B10-15'																	
20	B10-20'																	
21	B10-25'																	
22	B11-5'																	
23	B11-10'																	
24	B11-15'																	
25	B11-20'																	
26	B11-25'																	
27	B12-5'																	
28	B12-10'																	

COMMENTS:

Relinquished by: (Signature) <u>John Reames</u>	Date: <u>7/16/91</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>7/16/91</u>	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
Company: <u>FRY</u>	Time: <u>1555</u>	Company: <u>CKY</u>	Time: <u>1000</u>	Company:	Time:	Company:	Time:

Storage/Disposal of Samples. Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.

R4C

910745

CLIENT

NAME:

IDEA

ADDRESS:

11325 Golden Rod Ave  
Fountain Valley

PHONE NO.

839-1247

FAX NO.

PROJECT NAME:

Meadrock

SEND REPORT TO:

Steve Mulligan

CHAIN OF CUSTODY RECORD  
REQUEST FOR ANALYSIS

DATE:

7/16/91

PAGE

3 OF 3



CKY incorporated  
Analytical Laboratories  
630 Maple Ave.  
Torrance, Calif. 90503  
Tel: 213-618-8889  
Fax: 213-618-0818

SAMPLER NAME/SIGNATURE

John Reames

TURN AROUND TIME

NORMAL



RUSH



ANALYSES REQUIRED

418.1

M8015

8010/601

8020/602

8080/608

8240/624

8270/625

CAM Metals

SAMPLE  
NUMBERSAMPLING  
DATE/TIMEPRESER-  
VATIVECONTAINER  
SIZE/TYPE

SAMPLE DESCRIPTION

WATER

SOIL

OTHER

29  
30  
31

B12-15'

7/16/91

me

brown box

X

B12-20'

↓

↓

↓

↓

B12-25'

↓

↓

↓

↓

↓

COMMENTS:

Relinquished by: (Signature)

Date:

7/16/91

Received by: (Signature)

Date:

7-16-91

Relinquished by: (Signature)

Date:

Received by: (Signature)

Date:

Company:

FREY

Time:

1555

Company:

CKY

Time:

1600

Company:

Time:

Company:

Time:

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days/at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



# C.K Y incorporated Analytical Laboratories

Date: 07/22/91  
910745

IDEA  
11325 Goldenrod  
Fountain Valley CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

-----  
Enclosed is the laboratory report for samples received on 07/16/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

Method

EPA 8010

No. of Analysis

30 Soils

The results are summarized on seven pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Kam Pang', is written over a horizontal dashed line.

Dr. Kam Pang  
Laboratory Director



EPA METHOD 8010  
VOLATILE ORGANICS BY GC

```
=====
CLIENT:                IDEA                DATE RECEIVED: 07/16/91
PROJECT:               Monadnock           DATE ANALYZED: 07/18/91
MATRIX TYPE:          Soil
=====
```

SAMPLE ID:	Blank	B7-5'	B7-10'	B7-15'	B7-20'	B7-25'	
CONTROL NO.: 910745		-1	-2	-3	-4	-5	
PARAMETERS (8010)		RESULT (ug/kg)					DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	100	88	88	97	84	78	



EPA METHOD 8010  
VOLATILE ORGANICS BY GC

```
=====
CLIENT:                IDEA                DATE RECEIVED: 07/16/91
PROJECT:               Monadnock           DATE ANALYZED: 07/18/91
MATRIX TYPE:          Soil
=====
```

SAMPLE ID:	B8-5'	B8-10'	B8-15'	B8-20'	B8-25'	
CONTROL NO.: 910745	-6	-7	-8	-9	-10	
PARAMETERS (8010)	RESULT (ug/kg)					DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	58	86	76	73	84	

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

CLIENT:	IDEA	DATE RECEIVED: 07/16/91
PROJECT:	Monadnock	DATE ANALYZED: 07/18/91
MATRIX TYPE:	Soil	

SAMPLE ID:	B9-5'	B9-10'	B9-15'	B9-20'	B9-25'	
CONTROL NO.: 910745	-12	-13	-14	-15	-16	
PARAMETERS (8010)	RESULT (ug/kg)					DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	74	78	70	79	80	

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

CLIENT:	IDEA	DATE RECEIVED: 07/16/91
PROJECT:	Monadnock	DATE ANALYZED: 07/17/91
MATRIX TYPE:	Soil	

SAMPLE ID:	BLANK	B10-5'	B10-10	B10-15'	B10-20'	B10-25'	
CONTROL NO.: 910745		-17	-18	-19	-20	-21	
PARAMETERS (8010)	RESULT (ug/kg)						DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	15	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5

% Surrogate Recovery:	102	117	110	122	109	106
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EPA METHOD 8010  
VOLATILE ORGANICS BY GC

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=====
CLIENT:                IDEA                DATE RECEIVED: 07/16/91
PROJECT:                Monadnock          DATE ANALYZED: 07/17/91
MATRIX TYPE:           Soil
=====
```

SAMPLE ID:	B11-5'	B11-10'	B11-15'	B11-20'	B11-25'	B12-5'	
CONTROL NO.: 910745	-22	-23	-24	-25	-26	-27	
PARAMETERS (8010)	RESULT (ug/kg)						DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	115	104	113	114	100	106	



**EPA METHOD 8010  
VOLATILE ORGANICS BY GC**

CLIENT:	IDEA	DATE RECEIVED: 07/16/9
PROJECT:	Monadnock	DATE ANALYZED: 07/17/9
MATRIX TYPE:	Soil	

SAMPLE ID:	B12-10'	B12-15'	B12-20'	B12-25'	
CONTROL NO.: 910745	-28	-29	-30	-31	
PARAMETERS (8010)	RESULT (ug/kg)				DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	11	ND	5
Dibromochloromethane	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	5
 % Surrogate Recovery:	 70	 104	 106	 74	

# **QUALITY CONTROL DATA**

**CLIENT:** IDEA  
**PROJECT:** Monadnock  
**CONTROL NO:** 910745

**METHOD** EPA 8010  
**MATRIX:** Soil

**SAMPLE ID:** Blank

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
TCE	ND	50	114	100	13
1,1 DCE	ND	50	108	90	18
Chl. Benzene	ND	50	112	113	1

**METHOD** EPA 8010  
**MATRIX:** Soil

**SAMPLE ID:** 910745-1

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
TCE	ND	13	94	104	10
Chl. Benzene	ND	13	107	131	20

A<sub>2</sub>

910768

# CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

CLIENT NAME: IOEA  
 ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
 PHONE NO. 839-1744 FAX NO. \_\_\_\_\_  
 PROJECT NAME: Steve Mulligan's Monorail  
 SEND REPORT TO: \_\_\_\_\_

DATE: 7/22/91  
 PAGE 1 OF 2



CKY Incorporated  
 Analytical Laboratories  
 630 Maple Ave.  
 Torrance, Calif. 90503  
 Tel: 213-618-8889  
 Fax: 213-618-0818

SAMPLER NAME/SIGNATURE				TURN AROUND TIME			ANALYSES REQUIRED									
John Reames				NORMAL <input type="checkbox"/> RUSH <input type="checkbox"/>			418.1	M8015	8010/801	8020/802	8080/808	8240/824	8270/825	CAM Metals	S 24 C	
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE WATER	DESCRIPTION SOIL	OTHER										
1	B23-5'	7/22/91	none brass tube		X				✓							
2	B23-10'								✓							
3	B23-15'								✓							
4	B23-20'								✓							
5	B23-25'								✓							
6	B24-5'								✓							
7	B24-10'								✓							
8	B24-15'								✓							
9	B24-20'								✓							
10	B24-25'								✓							
11	B25-5'								✓							
12	B25-10'								✓							
13	B25-15'								✓							
14	B25-20'								✓							

COMMENTS:

Relinquished by (Signature)	Date	Received by (Signature)	Date	Relinquished by (Signature)	Date	Received by (Signature)	Date
<i>John Reames</i>	7/22/91	<i>[Signature]</i>	7/22/91			<i>[Signature]</i>	7/22
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:
FREY	1500	CKY	8pm			CKY	4:15pm

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



Az 910768

<b>CLIENT NAME:</b> <u>IOEA</u> <b>ADDRESS:</b> <u>11325 Goldenrod</u> <u>Fountain Valley</u> <b>PHONE NO.</b> <u>839-1744</u> <b>FAX NO.</b> _____ <b>PROJECT NAME:</b> <u>Moredock</u> <b>SEND REPORT TO:</b> <u>Steve Mulligan</u>				<b>CHAIN OF CUSTODY RECORD</b> <b>REQUEST FOR ANALYSIS</b> <b>DATE:</b> <u>7/22/91</u> <b>PAGE</b> <u>2</u> <b>OF</b> <u>2</u>				 <b>CKY incorporated</b> <b>Analytical Laboratories</b> 630 Maple Ave. Torrance, Calif. 90503 Tel: 213-618-8889 Fax: 213-618-0818							
<b>SAMPLER NAME/SIGNATURE</b> <u>John Reames</u>				<b>TURN AROUND TIME</b> NORMAL <input type="checkbox"/> RUSH <input type="checkbox"/>		<b>ANALYSES REQUIRED</b>									
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESER- VATIVE	CONTAINER SIZE/TYPE	SAMPLE WATER	DESCRIPTION SOIL	OTHER	418.1	M8015	8010/801	8020/602	8080/608	8240/624	8270/625	CAM Metals	8230
15	B25-25'	7/22/91	none	brass tube	X										
16	B26-5'	↓	↓	↓	↓	↓									
17	B26-10'														
18	B26-15'														
19	B26-20'														
20	B26-25'														
21	B27-5'														
22	B27-10'														
23	B27-15'														
24	B27-20'														
25	B27-25'														
<b>COMMENTS:</b>															
Relinquished by: (Signature) <u>[Signature]</u> Company: <u>FRF</u>		Date: <u>7/22/91</u> Time: <u>1500</u>	Received by: (Signature) <u>[Signature]</u> Company: <u>CKY</u>		Date: <u>7-22-91</u> Time: <u>3:00pm</u>	Relinquished by: (Signature) Date: _____ Time: _____		Received by: (Signature) Date: _____ Time: _____		Received by: (Signature) Date: _____ Time: _____		Received by: (Signature) Date: _____ Time: _____			

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.

CLIENT NAME: IDEA  
ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
PHONE NO. 839-1164 FAX NO. \_\_\_\_\_  
PROJECT NAME: Morad rock  
SEND REPORT TO: Steve Mulligan

CHAIN OF CUSTODY RECORD  
REQUEST FOR ANALYSIS

DATE: 7/22/91  
PAGE 1 OF 1

CKY Inc. Analytical Laboratories  
630 Maple Ave.  
Torrance, Calif. 90503  
Tel: 213-618-8889  
Fax: 213-618-0818

SAMPLER NAME/SIGNATURE

John Reames

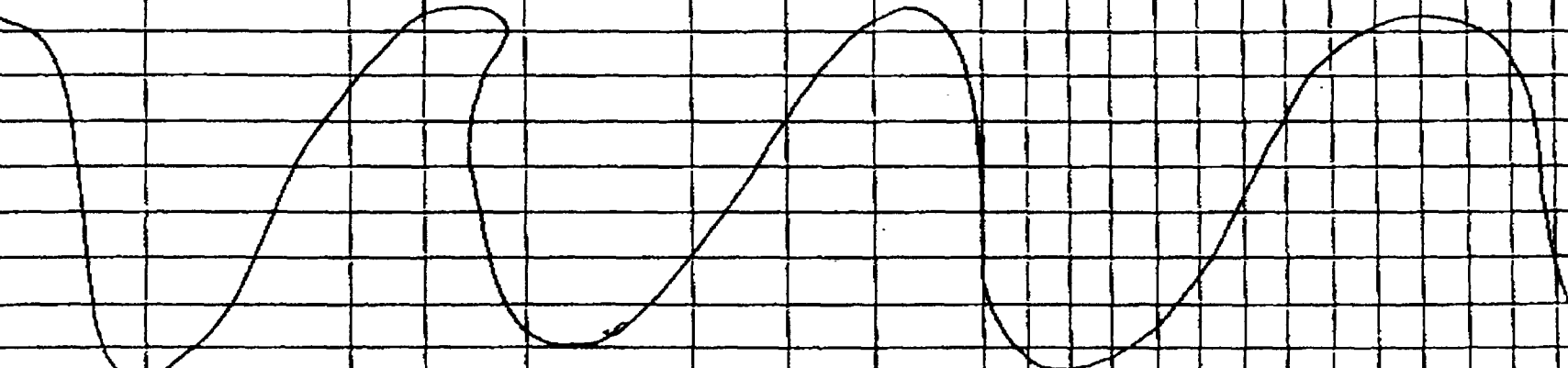
TURN AROUND TIME

NORMAL ☐

RUSH ☐

ANALYSES REQUIRED

SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION		
				WATER	SOIL	OTHER

26	B22-5'	7/22/91	none	brass tube		X													
27	B22-10'	↓	↓	↓	↓														
28	B22-15'	↓	↓	↓	↓														
29	B22-20'	↓	↓	↓	↓														
30	B22-25'	↓	↓	↓	↓														
																			

COMMENTS:

Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
<u>[Signature]</u>	<u>7/22/91</u>	<u>[Signature]</u>	<u>7/22</u>				
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:
<u>FREY</u>	<u>16:45</u>	<u>CKY</u>	<u>5:00</u>				

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



# CKY incorporated Analytical Laboratories

Date: 08/02/91  
910768

IDEA  
11325 Goldenrod Avenue  
Fountain Valley, CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

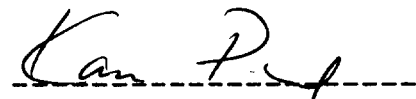
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Enclosed is the laboratory report for samples received on 07/22/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

<u>Method</u>	<u>No. of Analysis</u>
EPA 8260	30 Soils

The results are summarized on thirty two pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

  
-----  
Dr. Kam Pang  
Laboratory Director

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B23-5'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-1	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

**% Surrogate Recovery**

1,2 Dichloroethane-d4	92
Toluene-d8	72
Bromofluorobenzene	80



EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B23-10'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-2	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2-Dichloroethane	66
Toluene-d8	106
Bromofluorobenzene	114

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B23-15'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-3	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	11 (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	14 (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2-Dichloroethane-d4	94
Toluene-d8	96
Bromofluorobenzene	94

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B23-20'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-4	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2-Dichlorethane-d4	100
Toluene-d8	74
Bromofluorobenzene	120

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B23-25'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-5	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

**% Surrogate Recovery**

1,2 Dichloroethane-d4	90
Toluene-d8	88
Bromofluorobenzene	88

CKY



EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B24-5'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-6	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane	90
Toluene-d8	88
Bromofluorobenzene	86

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B24-10'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-7	MATRIX: Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	92
Toluene-d8	86
Bromofluorobenzene	88

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B24-15'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-8	MATRIX : Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	92
Toluene-d8	84
Bromofluorobenzene	88

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B24-20'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-9	MATRIX: Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	92
Toluene-d8	86
Bromofluorobenzene	88

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B24-25'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-10	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	94
Toluene-d8	84
Bromofluorobenzene	86

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B25-5'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-11	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

**ND = Not Detected**

**% Surrogate Recovery**

1,2 Dichloroethane-d4	94
Toluene-d8	86
Bromofluorobenzene	88

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B25-10	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-12	MATRIX: Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	92
Toluene-d8	84
Bromofluorobenzene	88

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B25-15	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-13	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	92
Toluene-d8	86
Bromofluorobenzene	89



**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B25-20'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-14	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	10 (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	16 (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	115
Toluene-d8	100
Bromofluorobenzene	94

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

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**CLIENT:** IDEA  
**PROJECT:** Monadnock  
**SAMPLE ID:** B25-25'  
**CONTROL NO:** 910768-15

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**DATE REC'D:** 07/22/91  
**DATE EXTRACTED:** N/A  
**DATE ANALYZED:** 07/23/91  
**MATRIX :** Soil

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<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	106
Toluene-d8	88
Bromofluorobenzene	102

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

CLIENT: IDEA  
PROJECT: Monadnock  
SAMPLE ID: B26-5'  
CONTROL NO: 910768-16

DATE REC'D: 07/22/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/23/91  
MATRIX : Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	102
Toluene-d8	136
Bromofluorobenzene	98

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B26-10	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-17	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	100
Toluene-d8	110
Bromofluorobenzene	98

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B26-15'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-18	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	100
Toluene-d8	72
Bromofluorobenzene	104

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B26-20'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-19	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	106
Toluene-d8	92
Bromofluorobenzene	104

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B26-25'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-20	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	108
Toluene-d8	92
Bromofluorobenzene	102

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B27-5'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-21	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	98
Toluene-d8	90
Bromofluorobenzene	102



EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B27-10'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-22	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	94
Toluene-d8	94
Bromofluorobenzene	118

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B27-15'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-23	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	90
Toluene-d8	108
Bromofluorobenzene	110

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B27-20	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-24	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	96
Toluene-d8	106
Bromofluorobenzene	110

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B27-25'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-25	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethene-d4	88
Toluene-d8	96
Bromofluorobenzene	114

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B22-5'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-26	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	110
Toluene-d8	108
Bromofluorobenzene	120

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B22-10	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-27	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	104
Toluene-d8	82
Bromofluorobenzene	82

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B22-15	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-28	MATRIX : Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	100
Toluene-d8	128
Bromofluorobenzene	102

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/22/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B22-20'	<b>DATE ANALYZED:</b>	07/23/91
<b>CONTROL NO:</b>	910768-29	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	98
Toluene-d8	100
Bromofluorobenzene	101



EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B22-25'	DATE ANALYZED: 07/23/91
CONTROL NO: 910768-30	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	114
Toluene-d8	96
Bromofluorobenzene	94

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/22/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: Method Blank	DATE ANALYZED: 07/23/91
CONTROL NO: 910768	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane -d 4	92
Toluene-d8	72
Bromofluorobenzene	80

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910768

METHOD EPA 8260  
MATRIX: Soil

SAMPLE ID: 910768-16

COMPOUND	SAMPLE RESULTS (ug/kg)	AMOUNT SPIKED (ug/kg)	% REC.	DUP. % REC.	RPD
Benzene	ND	50	94	96	2
TCE	ND	50	80	92	14
Toluene	ND	50	60	56	7
Chl. Benzene	ND	50	98	94	4

METHOD EPA 8260  
MATRIX: Soil

SAMPLE ID: 910768-30

COMPOUND	SAMPLE RESULTS (ug/kg)	AMOUNT SPIKED (ug/kg)	% REC.	DUP. % REC.	RPD
Benzene	ND	50	80	92	14
TCE	ND	50	72	82	13
Toluene	ND	50	68	76	11
Ch. Benzene	ND	50	84	108	25

Cn

CLIENT  
NAME: IOEA  
ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
PHONE NO. (714) 839 1744 FAX NO. \_\_\_\_\_  
PROJECT NAME: Monardrock  
SEND REPORT TO: Steve Mulligan

## CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

DATE: 7/23/91  
PAGE 1 OF 3



**C K Y incorporated**  
**Analytical Laboratories**  
630 Maple Ave.  
Torrance, Calif. 90503  
Tel: 213-618-8889  
Fax: 213-618-0818

[illegible]

COMMENTS:

Relinquished by: (Signature) <i>[Signature]</i>	Date: 7-23-91	Received by: (Signature) <i>[Signature]</i>	Date: 7-23-91	Relinquished by: (Signature) <i>[Signature]</i>	Date: 7-23-91	Received by: (Signature) <i>[Signature]</i>	Date: 7-23-91
Company: FREY	Time: 5:00 PM	Company: SOUTH COAST METRO	Time: 5:00 PM	Company: SCM #10	Time: 6:20	Company: SCM #10	Time: 6:20

**Storage/Disposal of Samples:** Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample

2

**Storage/Disposal of Samples:** Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.

910772 Cr

CHAIN OF CUSTODY RECORD  
REQUEST FOR ANALYSIS

CLIENT NAME: IDEA  
ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
PHONE NO. 714 829 1744 FAX NO. \_\_\_\_\_  
PROJECT NAME: Monadnock  
SEND REPORT TO: Steve Mulligan

DATE: 7/23/91  
PAGE 3 OF 3



CKY incorporated  
Analytical Laboratories  
630 Maple Ave.  
Torrance, Calif. 90503  
Tel: 213-618-8889  
Fax: 213-618-0818

SAMPLER NAME/SIGNATURE					TURN AROUND TIME			ANALYSES REQUIRED									
John Reames <i>[Signature]</i>					NORMAL <input type="checkbox"/>			418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals	Cyanide	
					RUSH <input type="checkbox"/>												
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE WATER	DESCRIPTION SOIL	OTHER											
29 B35-5'	7/23/91	none	brass tube		K											✓	
30 B35-10'																✓	
31 B35-15'																✓	
32 B35-20'																✓	
33 B35-25'																✓	
34 B36-5'																✓	
35 B36-10'																✓	
36 B36-15'																✓	
37 B36-20'																✓	
38 B36-25'																✓	

COMMENTS:

Relinquished by (Signature): <i>[Signature]</i>	Date: <u>7/23/91</u>	Received by (Signature): <i>[Signature]</i>	Date: <u>7-23-91</u>	Relinquished by (Signature): <i>[Signature]</i>	Date: <u>7-23-91</u>	Received by (Signature): <i>[Signature]</i>	Date: <u>7-23-91</u>
Company: <u>FREY</u>	Time: _____	Company: <u>SCM</u>	Time: <u>5:20</u>	Company: <u>SCM #10</u>	Time: <u>6:20</u>	Company: <u>CKY</u>	Time: <u>6:20</u>

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



# C K Y incorporated Analytical Laboratories

Date: 08/06/90  
910772

IDEA  
11325 Goldenrod  
Fountain Valley, CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

-----  
Enclosed is the laboratory report for samples received on 07/24/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

<u>Method</u>	<u>No. of Analysis</u>
EPA 8260	17 Soils
Cyanide	20 Soils
Cadmium	5 Soils
Chromium	5 Soils
EPA 418.1	2 Soils

The results are summarized on twenty-seven pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

Kam Pang (s)  
-----  
Dr. Kam Pang  
Laboratory Director

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/23/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B28-5'	<b>DATE ANALYZED:</b>	07/25/91
<b>CONTROL NO:</b>	910772-1	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	96
Toluene-d8	92
Bromofluorobenzene	92



**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/23/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B28-10'	<b>DATE ANALYZED:</b>	07/25/91
<b>CONTROL NO:</b>	910772-2	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	99
Toluene-d8	92
Bromofluorobenzene	94

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/23/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B28-15'	DATE ANALYZED: 07/25/91
CONTROL NO: 910772-3	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	97
Toluene-d8	95
Bromofluorobenzene	94

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/23/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B28-20'	DATE ANALYZED: 07/25/91
CONTROL NO: 910772-4	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	99
Toluene-d8	92
Bromofluorobenzene	94

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/23/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B28-25'	DATE ANALYZED: 07/25/91
CONTROL NO: 910772-5	MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	96
Toluene-d8	92
Bromofluorobenzene	94

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/23/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B29-5'	<b>DATE ANALYZED:</b>	07/25/91
<b>CONTROL NO:</b>	910772-7	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> (ug/kg)	<u>COMPOUND</u>	<u>RESULTS</u> (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	98
Toluene-d8	92
Bromofluorobenzene	92

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/23/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B29-10'	<b>DATE ANALYZED:</b>	07/25/91
<b>CONTROL NO:</b>	910772-8	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	97
Toluene-d8	90
Bromofluorobenzene	96

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/23/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B29-15'	<b>DATE ANALYZED:</b>	07/25/91
<b>CONTROL NO:</b>	910772-9	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	96
Toluene-d8	91
Bromofluorobenzene	94

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b> IDEA	<b>DATE REC'D:</b> 07/23/91
<b>PROJECT:</b> Monadnock	<b>DATE EXTRACTED:</b> N/A
<b>SAMPLE ID:</b> B29-20'	<b>DATE ANALYZED:</b> 07/25/91
<b>CONTROL NO:</b> 910772-10	<b>MATRIX:</b> Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

**% Surrogate Recovery**

1,2 Dichloroethane-d4	98
Toluene-d8	90
Bromofluorobenzene	94



**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/23/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B29-25'	<b>DATE ANALYZED:</b>	07/25/91
<b>CONTROL NO:</b>	910772-11	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	94
Toluene-d8	91
Bromofluorobenzene	98

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA	DATE REC'D: 07/23/91
PROJECT: Monadnock	DATE EXTRACTED: N/A
SAMPLE ID: B30-5'	DATE ANALYZED: 07/25/91
CONTROL NO: 910772-12	MATRIX: Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	96
Toluene-d8	90
Bromofluorobenzene	96

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA  
PROJECT: Monadnock  
SAMPLE ID: B30-10'  
CONTROL NO: 910772-13

DATE REC'D: 07/23/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/25/91  
MATRIX : Soil

<u>COMPOUND</u>	<u>RESULTS</u> (ug/kg)	<u>COMPOUND</u>	<u>RESULTS</u> (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	6.1 (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	94
Toluene-d8	90
Bromofluorobenzene	94

**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

<b>CLIENT:</b>	IDEA	<b>DATE REC'D:</b>	07/23/91
<b>PROJECT:</b>	Monadnock	<b>DATE EXTRACTED:</b>	N/A
<b>SAMPLE ID:</b>	B30-15'	<b>DATE ANALYZED:</b>	07/25/91
<b>CONTROL NO:</b>	910772-14	<b>MATRIX :</b>	Soil

<u>COMPOUND</u>	<u>RESULTS</u> (ug/kg)	<u>COMPOUND</u>	<u>RESULTS</u> (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	95
Toluene-d8	91
Bromofluorobenzene	93

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA  
PROJECT: Monadnock  
SAMPLE ID: B30-20'  
CONTROL NO: 910772-15

DATE REC'D: 07/23/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/25/91  
MATRIX : Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	94
Toluene-d8	94
Bromofluorobenzene	94

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA  
PROJECT: Monadnock  
SAMPLE ID: B30-25'  
CONTROL NO: 910772-16

DATE REC'D: 07/23/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/25/91  
MATRIX : Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	96
Toluene-d8	94
Bromofluorobenzene	90

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA  
PROJECT: Monadnock  
SAMPLE ID: B31-1'  
CONTROL NO: 910772-17

DATE REC'D: 07/23/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/25/91  
MATRIX : Soil

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	96
Toluene-d8	98
Bromofluorobenzene	95

EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS

CLIENT: IDEA  
PROJECT: Monadnock  
SAMPLE ID: B32-1'  
CONTROL NO: 910772 -18

DATE REC'D: 07/23/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/25/91  
MATRIX : Soil

COMPOUND	RESULTS (ug/kg)	COMPOUND	RESULTS (ug/kg)
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	94
Toluene-d8	104
Bromofluorobenzene	94



**EPA METHOD - 8260  
VOLATILE ORGANICS BY GC/MS**

=====

**CLIENT:** IDEA  
**PROJECT:** Monadnock  
**SAMPLE ID:** Method Blank  
**CONTROL NO:** 910772

=====

**DATE REC'D:** 07/23/91  
**DATE EXTRACTED:** N/A  
**DATE ANALYZED:** 07/25/91  
**MATRIX :** Soil

=====

<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>	<u>COMPOUND</u>	<u>RESULTS</u> <u>(ug/kg)</u>
Vinyl Chloride	ND (10)	Chlorobenzene	ND (5)
Bromomethane	ND (20)	1,1,1,2-Tetrachloroethane	ND (5)
Chloroethane	ND (20)	Ethyl Benzene	ND (5)
Trifluorochloromethane	ND (10)	Xylenes	ND (5)
1,1-Dichloroethene	ND (5)	Styrene	ND (5)
Methylene Chloride	ND (20)	Bromoform	ND (10)
t-1,2-Dichloroethene	ND (5)	Isopropyl Benzene	ND (5)
1,1-Dichloroethane	ND (5)	Bromobenzene	ND (10)
cis 1,2-Dichloroethene	ND (5)	1,1,2,2 -Tetrachloroethane	ND (5)
2,2-Dichloropropane	ND (5)	1,2,3-Trichloropropane	ND (5)
Bromochloromethane	ND (5)	n-Propylbenzene	ND (10)
Chloroform	ND (5)	2-Chlorotoluene	ND (10)
1,1,1-Trichloroethane	ND (5)	4-Chlorotoluene	ND (10)
Carbon Tetrachloride	ND (5)	1,3,5-Trimethylbenzene	ND (5)
Benzene	ND (5)	t-butylbenzene	ND (5)
1,2 -Dichloroethane	ND (5)	1,2,4-Trimethylbenzene	ND (5)
Trichloroethene	ND (5)	1,3-Dichlorobenzene	ND (5)
1,2 -Dichloropropane	ND (5)	sec-Butylbenzene	ND (10)
Dibromomethane	ND (5)	1,4-Dichlorobenzene	ND (5)
Bromodichloromethane	ND (5)	p-Isopropyl toluene	ND (10)
cis 1,3-Dichloropropane	ND (5)	1,2-Dichlorobenzene	ND (5)
Toluene	ND (5)	n-Butylbenzene	ND (10)
t-1,3-Dichloropropane	ND (5)	1,2 Dibromo-3-chloropropane	ND (20)
1,1,2-Trichloroethane	ND (5)	1,2,4-Trichlorobenzene	ND (20)
Tetrachloroethene	ND (5)	Naphthalene	ND (20)
1,3-Dichloropropane	ND (5)	Hexachlorobutadiene	ND (20)
Dibromochloromethane	ND (5)	1,2,3-Trichlorobenzene	ND (10)
1,2-Dibromoethane	ND (5)		

ND = Not Detected

% Surrogate Recovery

1,2 Dichloroethane-d4	95
Toluene-d8	88
Bromofluorobenzene	94

EPA 335.2  
CYANIDE

```
=====
CLIENT:      IDEA                      DATE REC'D:    07/23/91
PROJECT:     Monadnock                 DATE EXTRACTED: 08/05/91
CONTROL NO:  910772                   DATE ANALYZED: 08/05/91
MATRIX:      Soil
=====
```

<u>SAMPLE ID:</u>	<u>CONTROL NO:</u>	<u>RESULTS</u> <u>(mg/kg)</u>	<u>DETECTION LIMIT</u> <u>(mg/kg)</u>
B33-5'	910772-19	ND	2.0
B33-10'	910772-20	ND	2.0
B33-15'	910772-21	ND	2.0
B33-20'	910772-22	ND	2.0
B33-25'	910772-23	ND	2.0
B34-5'	910772-24	ND	2.0
B34-10'	910772-25	ND	2.0
B34-15'	910772-26	ND	2.0
B34-20'	910772-27	ND	2.0
B34-25'	910772-28	ND	2.0
B35-5'	910772-29	ND	2.0
B35-10'	910772-30	ND	2.0
B35-15'	910772-31	ND	2.0
B35-20'	910772-32	ND	2.0
B35-25'	910772-33	ND	2.0
B36-5'	910772-34	ND	2.0
B36-10'	910772-35	ND	2.0
B36-15'	910772-36	ND	2.0
B36-20'	910772-37	ND	2.0
B36-25'	910772-38	ND	2.0

=====

EPA 3050/6010  
TOTAL CADMIUM

CLIENT:	IDEA	DATE REC'D:	07/23/91
PROJECT:	Monadnock	DATE EXTRACTED:	07/29/91
CONTROL NO:	910772	DATE ANALYZED:	07/30/91
MATRIX:	Soil		

<u>SAMPLE ID:</u>	<u>CONTROL NO:</u>	<u>RESULTS</u> <u>(mg/kg)</u>	<u>DETECTION LIMIT</u> <u>(mg/kg)</u>
B33-5'	910772-19	5.0	0.5
B33-10'	910772-20	5.0	0.5
B33-15'	910772-21	5.0	0.5
B33-20'	910772-22	2.0	0.5
B33-25'	910772-23	2.0	0.5

EPA 3050/6010  
TOTAL CHROMIUM

=====

CLIENT:	IDEA	DATE REC'D:	07/23/91
PROJECT:	Monadnock	DATE EXTRACTED:	07/29/91
CONTROL NO:	910772	DATE ANALYZED:	07/30/91
MATRIX:	Soil		

=====

<u>SAMPLE ID:</u>	<u>CONTROL NO:</u>	<u>RESULTS</u> <u>(mg/kg)</u>	<u>DETECTION LIMIT</u> <u>(mg/kg)</u>
B34-5'	910772-24	30	0.5
B34-10'	910772-25	26	0.5
B34-15'	910772-26	30	0.5
B34-20'	910772-27	8.0	0.5
B34-25'	910772-28	6.0	0.5

=====

EPA METHOD 418.1  
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

=====

CLIENT:	IDEA	DATE REC'D:	07/23/91
PROJECT:	Monadnock	DATE EXTRACTED:	07/25/91
CONTROL NO:	910772	DATE ANALYZED:	07/26/91
MATRIX:	Soil		

=====

<u>SAMPLE ID:</u>	<u>CONTROL NO:</u>	<u>RESULTS</u> <u>(mg/kg)</u>	<u>DETECTION LIMIT</u> <u>(mg/kg)</u>
B31-1'	910772-17	33	5
B32-1'	910772-18	76	5

=====

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910772

METHOD EPA 335.2  
MATRIX: Soil

SAMPLE ID: 910772-38

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (mg/kg)	<u>AMOUNT SPIKED</u> (mg/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
Cyanide	ND	2	94	97	3

METHOD EPA 335.2  
MATRIX: Soil

SAMPLE ID: 910772-28

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (mg/kg)	<u>AMOUNT SPIKED</u> (mg/kg)	<u>% REC.</u>
Cyanide	0.1	2	104

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910772

METHOD EPA 3050/6010  
MATRIX: Soil

SAMPLE ID: 910772-27

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (mg/kg)	<u>AMOUNT SPIKED</u> (mg/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
Cadmium	2.0	100	87	92	5

METHOD EPA 3050/6010  
MATRIX: Soil

SAMPLE ID: 910772-27

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (mg/kg)	<u>AMOUNT SPIKED</u> (mg/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
Total Chromium	8.0	100	95	98	3

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910772

METHOD EPA 8260  
MATRIX: Soil

SAMPLE ID: 910763-09

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
11-DCE	ND	50	78	84	7
Benzene	ND	50	94	98	4
TCE	ND	50	84	88	2
Toluene	ND	50	94	94	0
Chl. Benzene	ND	50	96	95	1

METHOD EPA 8260  
MATRIX: Soil

SAMPLE ID: 910772-18

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
11-DCE	ND	50	81	76	6
TCE	ND	50	96	100	4
Benzene	ND	50	88	88	0
Toluene	ND	50	94	96	2
Chl. Benzene	ND	50	98	97	1



# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910772

METHOD EPA 418.1  
MATRIX: Soil

SAMPLE ID: Blank

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (mg/kg)	<u>AMOUNT SPIKED</u> (mg/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
TRPH	ND	50	100	102	2



R4B

910748

# CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

CLIENT NAME: IDEA  
 ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
 PHONE NO. 939-1744 FAX NO.   
 PROJECT NAME: Manadrock  
 SEND REPORT TO: Steve Mulligan

DATE: 7/17/91  
 PAGE 1 OF 2



CKY incorporated  
 Analytical Laboratories  
 630 Maple Ave.  
 Torrance, Calif. 90503  
 Tel: 213-618-8889  
 Fax: 213-618-0818

SAMPLER NAME/SIGNATURE				TURN AROUND TIME			ANALYSES REQUIRED									
John Reames <i>[Signature]</i>				NORMAL <input checked="" type="checkbox"/>			418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals		
				RUSH <input type="checkbox"/>												
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESER-VATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION												
				WATER	SOIL	OTHER										
1 B13-5'	7/17/91	none	brass tube		X				✓							
2 B13-10'									✓							
3 B13-15'									✓							
4 B13-20'									✓							
5 B13-25'									✓							
6 B14-5'									✓							
7 B14-10'									✓							
8 B14-15'									✓							
9 B14-20'									✓							
10 B14-25'									✓							
11 B15-5'									✓							
12 B15-10'									✓							
13 B15-15'									✓							
14 B15-20'									✓							
15 B15-25'									✓							

COMMENTS:

Relinquished by: (Signature) <i>[Signature]</i>	Date: <u>7/17/91</u>	Received by: (Signature) <i>[Signature]</i>	Date: <u>7-17-91</u>	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
Company: <u>FREY</u>	Time:	Company: <u>CKY</u>	Time: <u>12:00</u>	Company:	Time:	Company:	Time:

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



# CKY incorporated Analytical Laboratories

Date: 07/22/91  
910748

IDEA  
11325 Goldenrod  
Fountain Valley CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

-----  
Enclosed is the laboratory report for samples received on 07/17/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

Method

No. of Analysis

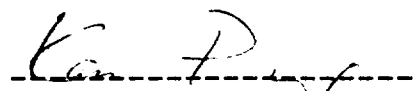
EPA 8010

15 Soils

The results are summarized on four pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

  
-----  
Dr. Kam Pang  
Laboratory Director

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

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=====
CLIENT:          IDEA                      DATE REC'D: 07/17/91
PROJECT:         Monadnock                DATE ANALYZED: 07/18/91
MATRIX TYPE:     Soil
=====
```

SAMPLE ID:	Method	B13-5'	B13-10'	B13-15'	B13-20'	B13-25'	DETEC.
CONTROL NO.: 910748	Blank	-1	-2	-3	-4	-5	LIMIT
PARAMETERS (8010)							(ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	12	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	88	ND	ND	19	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	220	27	6	43	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	102	100	103	105	106	106	

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT:	IDEA	DATE REC'D: 07/17/91
PROJECT:	Monadnock	DATE ANALYZED: 07/18/91
MATRIX TYPE:	Soil	

=====

SAMPLE ID:	B14-5'	B14-10'	B14-15'	B14-20'	B14-25'	B15-5'
CONTROL NO.: 910748	-6	-7	-8	-9	-10	-11

PARAMETERS (8010)	RESULT (ug/kg)						DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	6	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	120	16	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	170	21	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	780	78	ND	ND	ND	14	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5

% Surrogate Recovery:	97	106	114	108	108	104
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**EPA METHOD 8010  
VOLATILE ORGANICS BY GC**

<b>CLIENT:</b>	<b>IDEA</b>	<b>DATE RECEIVED: 07/17/91</b>
<b>PROJECT:</b>	<b>Monadnock</b>	<b>DATE ANALYZED: 07/18/91</b>
<b>MATRIX TYPE:</b>	<b>Soil</b>	

<b>SAMPLE ID:</b>	<b>B15-10'</b>	<b>B15-15'</b>	<b>B15-20'</b>	<b>B15-25'</b>	
<b>CONTROL NO.: 910748</b>	<b>-12</b>	<b>-13</b>	<b>-14</b>	<b>-15</b>	
<b>PARAMETERS (8010)</b>	<b>RESULT (ug/kg)</b>				<b>DETEC. LIMIT (ug/Kg)</b>
Dichlorodifluoromethane	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	20
Trichlorofluoromethane	6	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	5
Trichloroethene	7	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	5
Tetrachloroethene	15	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	5
<b>% Surrogate Recovery:</b>	<b>104</b>	<b>106</b>	<b>104</b>	<b>108</b>	

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910748

=====

METHOD EPA 8010  
MATRIX: Soil

SAMPLE ID: 910748-15

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
1,1 DCE	ND	50	108	112	4
Benzene	ND	50	116	116	0
TCE	ND	50	112	113	1
Toluene	ND	50	106	112	5
Chl. Benzene	ND	50	108	114	5

R3A

910734

# CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

CLIENT NAME: IDEA  
 ADDRESS: 11325 Goldenrod Ave  
Fountain Valley  
 PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_  
 PROJECT NAME: Monadnock  
 SEND REPORT TO: Steve Mulligan

DATE: 7/18/91  
 PAGE 1 OF 2



CKY incorporated  
 Analytical Laboratories  
 630 Maple Ave.  
 Torrance, Calif. 90503  
 Tel: 213-618-8889  
 Fax: 213-618-0818

SAMPLER NAME/SIGNATURE				TURN AROUND TIME			ANALYSES REQUIRED													
John Keames/John Keam				NORMAL <input type="checkbox"/>			418.1 M8015 8010/601 8020/602 8080/608 8240/624 8270/625 CAM Metals													
				RUSH <input type="checkbox"/>																
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION																
				WATER	SOIL	OTHER														
1 B16-5'	7/18/91	none	glass tube		X															
2 B16-10'																				
3 B16-15'																				
4 B16-20'																				
5 B16-25'																				
6 B17-5'																				
7 B17-10'																				
8 B17-15'																				
9 B17-20'																				
10 B17-25'																				
11 B18-5'																				
12 B18-10'																				
13 B18-15'																				
14 B18-20'																				

COMMENTS:

Relinquished by: (Signature) <u>John Keames</u>	Date: <u>7/18/91</u>	Received by: (Signature) <u>Steve Mulligan</u>	Date: <u>7-18-91</u>	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date: <u>7/18</u>
Company: <u>FR3Y</u>	Time: <u>1540</u>	Company: <u>CKY</u>	Time: <u>1640</u>	Company:	Time:	Company: <u>CKY</u>	Time: <u>5:00</u>

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



R3A

910754

CLIENT

NAME: IDEAADDRESS: 11325 Goldenrod AveFountain Valley

PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_

PROJECT NAME: MonardnockSEND REPORT TO: Steve MulliganCHAIN OF CUSTODY RECORD  
REQUEST FOR ANALYSISDATE: 7/18/91PAGE 2 OF 2

CKY incorporated  
Analytical Laboratories  
630 Maple Ave.  
Irvine, Calif 92601  
Tel: 213-618-8889  
Fax: 213-618-0818

SAMPLER NAME/SIGNATURE

John Kearnes

TURN AROUND TIME

NORMAL ☐RUSH ☐

ANALYSES REQUIRED

SAMPLE NUMBER	SAMPLING DATE/TIME	PRESER- VATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION			418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals
				WATER	SOIL	OTHER								
15	B18-25'								✓					
16	B19-5'								✓					
17	B19-10'								✓					
18	B19-15'								✓					
19	B19-20'								✓					
20	B19-25'								✓					

COMMENTS:

Relinquished by: (Signature)

Date: 7/18/91

Received by: (Signature)

Date: 7-18-91

Relinquished by: (Signature)

Date: \_\_\_\_\_

Received by: (Signature)

Date: 7/18/91

Company:

FREY

Time:

1540

Company:

CKY

Time:

11:50

Company:

Time:

Company:

CKY

Time:

5:00

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at \$10/sample.



# CKY incorporated Analytical Laboratories

Date: 07/22/91  
910754

IDEA  
11325 Goldenrod  
Fountain Valley CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

-----  
Enclosed is the laboratory report for samples received on 07/18/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

Method

No. of Analysis

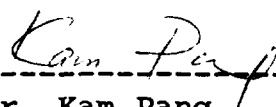
EPA 8010

20 Soils

The results are summarized on five pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

  
-----  
Dr. Kam Pang  
Laboratory Director

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910754  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/18/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/18/91

SAMPLE ID:	BLANK	B16-5'	B16-10'	B16-15'	B16-20'	B16-25'	DETEC.
CONTROL NO.: 910754		-1	-2	-3	-4	-5	LIMIT
PARAMETERS (8010)	RESULT (ug/kg)						(ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	45	5	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	130	61	10	9	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5

% Surrogate Recovery:	104	103	103	103	107	106
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=====



EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910754  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/18/81  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/18/91

=====

SAMPLE ID:	B17-5'	B17-10'	B17-15'	B17-20'	B17-25'	B18-5'	
CONTROL NO.: 910754	-6	-7	-8	-9	-10	-11	
PARAMETERS (8010)	RESULT (ug/kg)						DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	230	15	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	1100	39	6	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5

% Surrogate Recovery:	101	100	104	105	103	98
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=====

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910754  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/18/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/18/91

SAMPLE ID:	B18-10'	B18-15'	B18-20'	B18-25'	B19-5'	B19-10'	DETEC.
CONTROL NO.: 910754	-12	-13	-14	-15	-16	-17	LIMIT
PARAMETERS (8010)	RESULT (ug/kg)						(ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	110	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	11	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	7	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	103	104	90	104	96	103	

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: MONADNOCK  
CONTROL NO: 910754  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/18/91  
DATE EXTRACTED: N/A  
DATE ANALYZED: 07/18/91

SAMPLE ID:	B19-15'	B19-20'	B19-25'	
CONTROL NO.: 910754	-18	-19	-20	
PARAMETERS (8010)	RESULT (ug/kg)			DETEC. LIMIT (ug/Kg)
Dichlorodifluoromethane	ND	ND	ND	20
Chloromethane	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	20
Bromomethane	ND	ND	ND	20
Chloroethane	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	5
Chloroform	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	5
Trichloroethene	7	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	5
Tetrachloroethene	12	ND	ND	5
Dibromochloromethane	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Bromoform	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	5
Benzylchloride	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	5
% Surrogate Recovery:	104	114	110	

# **QUALITY CONTROL DATA**

**CLIENT:** IDEA  
**PROJECT:** Monadnock  
**CONTROL NO:** 910754

**METHOD** EPA 8010  
**MATRIX:** Soil

**SAMPLE ID:** 910754-10

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
11-DCE	ND	50	98	90	8
TCE	ND	50	96	95	1
Chl. Benzene	ND	50	112	112	0

**METHOD** EPA 8010  
**MATRIX:** Soil

**SAMPLE ID:** 910754-20

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
11-DCE	ND	50	84	91	8
TCE	ND	50	94	108	14
Chl. Benzene	ND	50	110	112	2



# CKY incorporated Analytical Laboratories

Date: 08/06/91  
910754

IDEA  
11325 Goldenrod  
Fountain Valley CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock


-----  
Enclosed is the additional laboratory report for samples received on 07/18/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

<u>Method</u>	<u>No. of Analysis</u>
EPA 335.2	5 Soils

The results are summarized on two pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

  
-----  
Dr. Kam Pang  
Laboratory Director



EPA 335.2  
CYANIDE

=====

CLIENT:	Woodward Clyde Cons.	DATE REC'D:	07/18/91
PROJECT:	Monadnock	DATE EXTRACTED:	08/05/91
CONTROL NO:	910754	DATE ANALYZED:	08/05/91
MATRIX:	Soil		

=====

<u>SAMPLE ID:</u>	<u>CONTROL NO:</u>	<u>RESULTS</u> <u>(mg/kg)</u>	<u>DETECTION LIMIT</u> <u>(mg/kg)</u>
B18-5'	910754-11	ND	2.0
B18-10'	910754-12	ND	2.0
B18-15'	910754-13	ND	2.0
B18-20'	910754-14	ND	2.0
B18-25'	910754-15	ND	2.0

=====

QUALITY CONTROL DATA

CLIENT: Woodward Clyde Cons.  
PROJECT: Benchmark  
CONTROL NO: 910754

=====

METHOD EPA 335.2  
MATRIX: Soil

SAMPLE ID: 910762-5

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (mg/kg)	<u>AMOUNT SPIKED</u> (mg/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
Cyanide	ND	2	97	94	3



A2 910762

# CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

CLIENT NAME: IDEA  
 ADDRESS: 11325 Goldenrod Ave  
Fountain Valley, CA  
 PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_  
 PROJECT NAME: Monadnock  
 SEND REPORT TO: Steve Mulligan

DATE: 7/19/91  
 PAGE 1 OF \_\_\_\_\_



CKY incorporated  
 Analytical Laboratories  
 630 Maple Ave.  
 Torrance, Calif. 90503  
 Tel: 213-618-8889  
 Fax: 213-618-0818

SAMPLER NAME/SIGNATURE				TURN AROUND TIME			ANALYSES REQUIRED										
John Reamer <i>[Signature]</i>				NORMAL <input type="checkbox"/> RUSH <input type="checkbox"/>													
							418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals			
SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE WATER	DESCRIPTION SOIL	OTHER											
B20-5'	7/19/91		none brass tube		X												
B20-10'																	
B20-15'																	
B20-15G																	
B20-20'																	
B20-25'																	
B21-5'																	
B21-10'																	
B21-15'																	
B21-20'																	
B21-25'																	

COMMENTS:

Relinquished by: (Signature) <i>[Signature]</i>	Date: 7/19/91	Received by: (Signature) <i>[Signature]</i>	Date: 7-19-91	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
Company: FREY	Time:	Company: CKY	Time: 1200	Company:	Time:	Company:	Time:

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at \$10/sample/month thereafter Disposal of sample by the Laboratory will be charged at \$10/sample.



# C K Y incorporated Analytical Laboratories

Date: 07/23/91  
910762

IDEA  
11325 Goldenrod Ave.  
Fountain Valley, CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

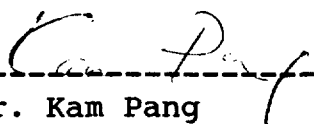
-----  
Enclosed is the laboratory report for samples received on 07/19/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

<u>Method</u>	<u>No. of Analysis</u>
EPA 8010	10 Soils

The results are summarized on four pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

  
-----  
Dr. Kam Pang  
Laboratory Director

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT:           IDEA  
PROJECT:          Monadnock  
MATRIX TYPE:     Soil

=====

DATE REC'D: 07/19/91  
DATE ANALYZED: 07/20/91

SAMPLE ID:	BLANK	B20-5'	B20-10'	B20-15'	B20-20'	
CONTROL NO: 910762		-1	-1	-3	-5	
	RESULT (ug/kg)					DETECTION LIMIT (ug/Kg)
PARAMETERS (8010)						
Dichlorodifluoromethane	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	5
% Surrogate Recovery:	116	116	111	108	120	

EPA METHOD 8010  
VOLATILE ORGANICS BY GC

=====

CLIENT: IDEA  
PROJECT: Monadnock  
MATRIX TYPE: Soil

=====

DATE REC'D: 07/19/91  
DATE ANALYZED: 07/20/91

SAMPLE ID:	B20-25'	B21-5'	B21-10'	B21-15'	B21-20'	
CONTROL NO: 910762	-6	-7	-8	-9	-10	
	RESULT (ug/kg)					DETECTION LIMIT (ug/Kg)
PARAMETERS (8010)						
Dichlorodifluoromethane	ND	ND	ND	ND	ND	20
Chloromethane	ND	ND	ND	ND	ND	20
Vinyl Chloride	ND	ND	ND	ND	ND	20
Bromomethane	ND	ND	ND	ND	ND	20
Chloroethane	ND	ND	ND	ND	ND	20
Trichlorofluoromethane	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	5
Cis-1,2-Dichloroethene	ND	92	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	14	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	5
2-Chloroethylvinylether	ND	ND	ND	ND	ND	5
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	29	10	15	5
Dibromochloromethane	ND	ND	ND	ND	ND	5
Ethylene Dibromide	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	5
Chlorotoluene	ND	ND	ND	ND	ND	5
M-Dichlorobenzene	ND	ND	ND	ND	ND	5
P-Dichlorobenzene	ND	ND	ND	ND	ND	5
Benzylchloride	ND	ND	ND	ND	ND	5
O-Dichlorobenzene	ND	ND	ND	ND	ND	5

% Surrogate Recovery:	120	119	110	112	111
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=====



EPA METHOD 8010  
VOLATILE ORGANICS BY GC

```
=====
CLIENT:      IDEA                      DATE REC'D:  07/19/91
PROJECT:     Monadnock                 DATE ANALYZED: 07/20/91
MATRIX TYPE: Soil
=====
```

SAMPLE ID:	B21 - 25'	
CONTROL NO: 1910762	-11	
	RESULT (ug/kg)	DETECTION LIMIT
PARAMETERS (8010)		(ug/Kg)
Dichlorodifluoromethane	ND	20
Chloromethane	ND	20
Vinyl Chloride	ND	20
Bromomethane	ND	20
Chloroethane	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Methylene Chloride	ND	5
Cis-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Bromodichloromethane	ND	5
2-Chloroethylvinylether	ND	5
Trans-1,3-Dichloropropene	ND	5
Cis-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
Dibromochloromethane	ND	5
Ethylene Dibromide	ND	5
Chlorobenzene	ND	5
Bromoform	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorotoluene	ND	5
M-Dichlorobenzene	ND	5
P-Dichlorobenzene	ND	5
Benzylchloride	ND	5
O-Dichlorobenzene	ND	5

% Surrogate Recovery: 110

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910762

METHOD EPA 8010  
MATRIX: Soil

SAMPLE ID: 910762-09

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (ug/kg)	<u>AMOUNT SPIKED</u> (ug/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
11-DCE	ND	50	129	129	0
TCE	ND	50	127	123	3
Chl. Benzene	ND	50	109	118	8





# CKY incorporated Analytical Laboratories

Date: 08/06/91  
910762

IDEA  
11325 Goldenrod Ave.  
Fountain Valley, CA 92708

Attn: Mr. Steve Mulligan

Subject: Laboratory Report  
Project: Monadnock

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Enclosed is the additional laboratory report for samples received on 07/19/91. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported includes:

<u>Method</u>	<u>No. of Analysis</u>
EPA 335.2	6 Soils

The results are summarized on two pages.

Please feel free to call if you have any questions concerning these results.

Sincerely,

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*Kam Pang* (s)  
-----  
Dr. Kam Pang  
Laboratory Director

EPA 335.2  
CYANIDE

```
=====
CLIENT:      IDEA                                DATE REC'D:    07/19/91
PROJECT:     Monadnock                          DATE EXTRACTED:08/05/91
CONTROL NO:  910762                            DATE ANALYZED: 08/05/91
MATRIX:      Soil
=====
```

<u>SAMPLE ID:</u>	<u>CONTROL NO:</u>	<u>RESULTS</u> <u>(mg/kg)</u>	<u>DETECTION LIMIT</u> <u>(mg/kg)</u>
B20-5'	910762-1	ND	2.0
B20-10'	910762-2	ND	2.0
B20-15'	910762-3	ND	2.0
B20-15G	910762-4	ND	2.0
B20-20'	910762-5	ND	2.0
B20-25'	910762-6	ND	2.0

```
=====
```

# QUALITY CONTROL DATA

CLIENT: IDEA  
PROJECT: Monadnock  
CONTROL NO: 910762

METHOD EPA 335.2  
MATRIX: Soil

SAMPLE ID: 910762-5

<u>COMPOUND</u>	<u>SAMPLE RESULTS</u> (mg/kg)	<u>AMOUNT SPIKED</u> (mg/kg)	<u>% REC.</u>	<u>DUP. % REC.</u>	<u>RPD</u>
Cyanide	ND	2	97	94	3